AMIGA COMPUTING

March 1991 Issue 34 £2.95



Amigas in education
The best in school software

Of mice and men
Rodent rapping

Creeping terror!
Viral nasties eradicated

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COVER STORY



Once upon a time, education was all about chalk dust, mortar boards and clips about the ear. But not any more. You're as likely to be taught by silicon as by Sir. Increase your knowledge by turning to Page 18...

WHO'S WHO

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THE DISK

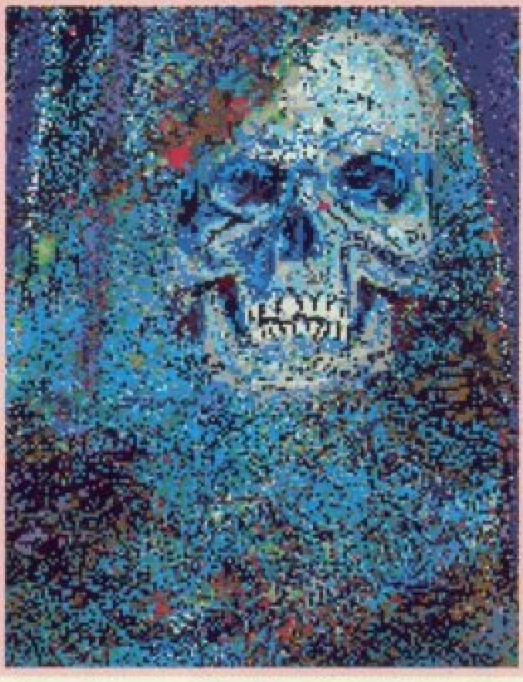
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The disk that leaves all others with their electro-magnetic heads bowed. Every month, we present some of the best free software around and this month's no exception!

To begin with, we've got the magnificent Huge, a comprehensive graphics manipulation and creation utility which enables you to design eye-catching icons without tears! There's FixDisk 1.2 for when you've accidentally wiped those all-important files and Eye, a memory monitor with a difference – it runs in real time. That's right! Just watch those registers flick to and fro. And to top all, there's Klondike and Connex 35, two gaming hummers. *The* Disk– don't miss it!

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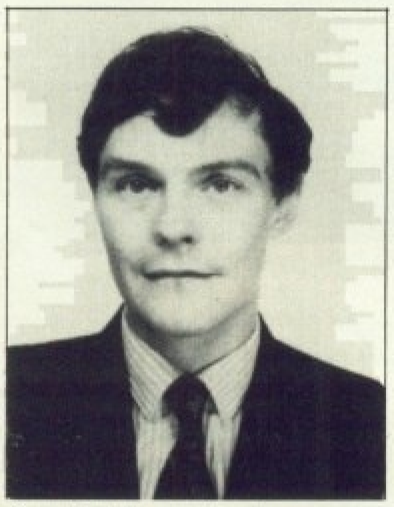
AMIGA people

THE modern army is not all about guns and fighting. After 10 years as a Staff Sergeant Artificer, Steve Marriott has used his knowledge of computers and electronics to produce some of the most interesting packages currently available for the Amiga.

Steve is the brains behind those popular computer aided betting programs The Tipster, The Punter and The Dogs.

They are available through TAM Marketing, the family company which started life dealing in cleaning chemicals and is now helping Amiga owners to clean up at the bookies.

Steve, 32, who has just completed his stint in the army, was heavily involved in computers throughout his service. He taught at the army's electronics and engineering college at Arbourfield, Reading, and developed a number of demo program for companies, including Precision Software.



Steve Marriott – expert punter

During his service he was also involved in software analysis, visiting companies from whom the army buy software to evaluate their products.

His computer knowledge is wide and varied but one of the most significant steps of his career development was a comparatively simple accounting program designed to save time in his mother's Sidmouth wool shop.

"Before I installed the system accounting took around five hours a week, but once it was computerised this was cut to two hours", said Steve.

"The system has proved itself particularly useful on the VAT side, producing reports which are vital for forward planning". This led to Steve's first betting program, The Tipster, written for horse racing and completed in November last year.

"A lot of research went into The Tipster", said Steve. "I used a massive amount of information from The Racing Post to build up a statistical picture which has produced considerable success for many users.

"The program had to be based on statistics, since before I wrote it I had never been to a race meeting or into a betting shop. Since producing The Tipster I have now been to the races once, but that is all".

Although Steve and his TAM team produce both Atari ST and PC programs, they consider the ➤

WHAT'S new

LATEST SPECTRAVIDEO

LOGIC 3, the new joystick company recently formed by Spectravideo (081-900 0024) are poised to launch their first product, an ultra-modern hand-held joystick called Sting-ray.

"We see Logic 3 as the BMW of the joystick world and the Sting-ray as the ultimate zapping machine", said Spectravideo boss Ashwin Patel.

Sting-ray looks like a futuristic space gun and is designed to be easily held in either hand. Manufactured in the UK, it includes durable microswitches for quick responses and comes in four models. The standard Sting-ray costs £14.95 and the Sting-ray autofire, £15.95.



The ultimate zapping machine

24-PIN REVOLUTION

AMIGA owners are playing their part in a the dramatic upsurge of popularity currently being enjoyed by 24-pin dot matrix printers.

It's a trend that is being reflected across Europe and according to Richard Scotto, the 24-pin revolution is set to grow.

After heading the European sales operation of top printer manufacturers Citizen for more than five years, Richard is well versed in printer markets.

"Now 24-pin sales represent about 54 per cent of the impact ➤

AMIGA people

Amiga's graphics capabilities produce by far the best packages.

They have five Amigas in their Exeter offices which have also produced The Punter pools program and The Dogs for greyhound racing.

TAM is very much a family affair and the workforce includes Steve, his mother and father, two sisters, one brother-in-law and his fiancee.

Their next two offerings will be games. Due out at the end of March is The Pundit, a political game based on statistics. For summer release is Gone Fishing which challenges players to use the right angling tactics and equipment to make a big catch.



Steve Anderson (left) presenting CFA champion Neale Tyne with his trophy

OFFICIAL BODY FOR SILICON SOCCER

CUP fever brought so many football supporters to a recent final in Germany that the police had to be called in to control the crowds. A league event in Italy attracted 15,000 players and the same frenzy has also overtaken France and Spain.

Fairly normal soccer statistics? Not in this case. This game has nothing to do with stadia or turf. It's played on computer screens and the stars are whizz-kids of the keyboard.

Replacing boots and balls with bits and bytes, computer football has a huge cult following throughout Europe. It's the same story in the UK, where the man behind the Computer Football Association is Steve Anderson of Mutant Software.

The Mr. Football of the computer world, Steve is a committed fan of the Amiga and together with his cohorts at Mutant, he based the whole concept of the CFA on his favourite machine.

Using Anco's Kick Off software, the CFA achieved massive support for its 1990 league. This reached its finale at the recent Computer Shopper Show with the UK playoffs and visits from European champions.

The Mutant team are now planning more nationwide events for this year.

Sited next to Terminal Four at Heathrow Airport, Mutant Software was started a year ago by Steve and a group of his Amiga games playing friends.

"We used to spend eight hours a day playing games", said 30-year-old Steve. "We would work on the taxis at the weekends to earn just enough to survive, then spend the weekdays playing games on the Amiga.

"Having got to know hundreds of games, we decided to set up Mutant Software selling a variety of popular titles. We chose the name because I was always known as The Mutant when we were driving taxis.

"With Teenage Mutant Ninja Turtles, it has now become very popular but that was just a stroke of luck as far as we were concerned. I had the Mutant name first".

Steve and his Mutant mates are now planning to move on from selling other company's packages into developing their own titles with games along the lines of their own favourites such as Elite and Speedball. Keen exponents of ➤

WHAT'S new



Richard Scotto

printer market in Germany, 40 per cent in France and 38 per cent in the UK", he said.

Predictions are that over the next year these figures will increase to 68 per cent in Germany, 54 per cent in France and 53 per cent in the UK.

Richard bases his figures and predictions on the success of his own company's products, including the Swift 24 which recently smashed the 100,000 sales barrier.

"Not only are our sales increasing in terms of numbers of units sold but 24-pin popularity has meant that sales have also increased in terms of value", he added. "The current Swift range is very strong but we will not rest on our laurels. We will continue to meet the challenges of the 24-pin market".

WISH UPON A STAR

STAR printers have updated some of their range including this neat 9-pin dot matrix model, the LC-200. An 80 column parallel printer, it now offers 180 cps in draft mode and 45 cps in NLQ with a 16Kb buffer, eight internal fonts and push and pull tractor feed.

Also included in the updated range is the LC 24-200 Colour, a 24-pin machine printing in seven colours.

Action Computer Supplies (0800 333333) are currently offering special prices with the LC-200 at £199 and the LC24-200 Colour at £299. They come with a two year extended warranty.



The Star LC-200

NEW FOR OLD

OWNERS of A500 machines who want to upgrade to an A1500 can now take advantage of a discount scheme launched by Commodore and due to run until May.

If they trade in their old A500 for an A1500, they are being offered a £200 discount off the £999.99 price of the A1500. ➤



.... the **CORTEX** rebellion!

1. A500/A1000 8Mb Expansion (2, 4, or 8Mb). Fully implemented autoconfigure. Fully operational through port for compatability with other autoconfiguring hardware (e.g. CBM A590). Complete with its own power supply (U.K., U.S. or Euro). **(2Mb FITTED). £279**

2. As above, but with the cover removed.

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5. External 3.5" Floppy Drive (not pictured). High-quality silent mechanism. Extra drive port and "enable/disable" switch. **£59**

Hard disks. Systems available for all Amiga variants call for details and pricing.

CHIP UPGRADES

"Fatter Agnus" chip (8372A) for A500/A2000. Enables up to 1Mb of Chip RAM. Fitting requires some skill and will invalidate your warranty. **£62**

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A3000 4 Mbit Static Column Dram call for pricing.

All prices include VAT and postage & packaging. Prices may be subject to change without notice. All products carry a 12 month guarantee. Dealer enquiries are welcome.

CORTEX products are marketed in the U.K. by Memory Expansion Systems Ltd. Britannia Buildings, 46 Fenwick Street, Liverpool L2 7NB. Tel. (051) 236 0480. Fax: (051) 227 2482. Make cheques payable to M.E.S. Ltd.

futuristic football, they hope to develop titles in that vein and also plan a new two-player soccer package to be used in the CFA, aiming to have at least four of their own titles available for next Christmas.

They will use their wide experience to incorporate the best techniques of gameplay into their packages.

"We used to play games on an old Spectrum, then one day we went down to Tottenham Court Road and spent a whole day looking at new machines", added Steve.

"We decided on an Amiga and we have supported it ever since. A lot of people say the Atari ST is as good, but we think the Amiga is far better".

IMPRESSIONS PLUMP FOR STRATEGY

THE current marketing strategy of Impressions managing director David Lester is to listen to the market and move away from arcade action.

By popular demand Impressions (071-371 9191) will now concentrate solely on strategy games.

"The move is a direct result of market forces", said Lester. "The response from consumers to our strategy games has been phenomnenal, with far more praise and repeat sales than our arcade titles ever achieved.

"Ever since we launched the best-selling Rorke's Drift we have been getting a constant supply of letters from customers all over the world thanking us for bringing out our games and asking for more. At our stand at the last show people came up and repeated these comments.

"At the same time our arcade game sales began to lag behind our strategy games so the move made considerable sense.

"We intend to develop the brand further, producing a wide range of strategy products, both war games and more peaceful simulations".

The next release from Impressions will be Feudal Lords, a historic simulation of warring lords where economics and resource management play just as important a part as military prowess and dastardly deeds such as assassination attempts.

Feudal Lords will be followed by Merchant Colony, a graphical trade and combat simulation set in the 19th century. In this, the player must buy and equip ships, find and build colonies and increase business while fighting off pirates and invading armies. The March launch from Impressions will be Cohort - Fighting for Rome, a follow-up to Rorke's Drift.

This adds multiple scenarios, a wider variety of troops plus many more improvements to produce a fascinating game of strategy.

Impressions' current release schedule will be rounded off in April by Africa Korps, the second in

MASSIVE SALES FOR COMMODORE

COMMODORE UK predict that they will sell 250,000 Amiga A500 machines during 1991. This target follows impressive sales figures just released by the company for the three month run-up to Christmas.

In October, November and December, 140,000 A500s were sold, bringing the total for 1990 to 200,000.

Adding to Commodore's jubilation, the same three months saw sales of 150,000 C64s and 20,000 games systems, with the Amiga A1500 having clocked up 9,000 sales since its launch. Figures were not available for Amiga 2000 and 3000s.

"We are over the moon about these figures", said Commodore's Andrew Ball. "Allied to them, a number of encouraging market trends have emerged. There has been a marked reduction in returned goods which we put down to our investment in the new warehousing at Milton Keynes where there is better pre-delivery inspection and improved quality control.

"There has also been a very marked increase in sales of peripherals including the 501 RAM and extra disk drives, particularly hard disks. This reflects the more sophisticated uses to which owners are putting their Amigas".

WHAT'S new

Machines traded in must be in full working order and complete with all original equipment except for bundled software.

The trade-in offer is available through a number of independent dealerships throughout the country and also from Dixons, Allders, Comet, Tandy and John Lewis stores.

"On the Amiga front, we think of it as one of the computers which users have for life", said Andrew Ball of Commodore.

"This scheme is intended to help Amiga owners who have started with an A500 to move more easily up to a 1500 as a platform for more interesting developements and uses with their Amiga".

What Commodore intend to do with all the old A500s they get in on the deal remains a mystery. Andrew offered "No comment".

AMOS MULTI-USER

THE author of AMOS, Francois Lionet, has now produced a serial extension to this top Amiga creation package from Mandarin Software. It has been included on the v1.21 disc which is available from Sandra Sharkey of the AMOS PD Library (0942 495261). The extension gives AMOS direct control over the Amiga's serial port hardware making is a useful addition for players of multi-user games and provides 15 new commands.

They include SERIAL OPEN which opens the serial port, SERIAL INPUTS for reading a string, SERIAL SPEED for changing baud rate and SERIAL SEND for sending strings to the serial port.

AMOS PD Library has now released its catalogue showing a wide variety of games and utilities written by AMOS users and available through the library.

NEWS STATESIDE

Californian hardware manufacturers, ICD, Inc have recently announced three hardware solutions to make life easier for all Amiga buffs.

The first is a flicker free video board designed to work with any Amy500, 1000 and 2000 using a standard VGA or multi-frequency monitor. Flicker Free Video provides a high quality display free of interlace flicker and visible scan lines.

The product is compatible with all Amiga software and both

AMIGA people

the series of war games from author Ken Wright.

Following on from Blitzkrieg May 1940, it is set in the desert campaign of World War II. Amiga versions of all these games will cost £24.99.

AMC LEADS THE WAY

IF you're ever stumped for information about the Amiga, be it product availability, new developments or the market in general, a call to north of the border is your best bet.

Martin Lowe of Amiga Centre Scotland holds a wealth of knowledge about your favourite machine and if he can't help you himself, he probably knows a man who can.

"I became involved with the Amiga in 1985 when I got one of the first machines in the UK", he told Amiga People. "At that time I was developing interactive video programs and needed a computer which was suited to that kind of work.

"I heard about this new machine called the Amiga and when it became available in November of that year I bought one". His purchase led to the formation of Edinburgh-based Amiga Centre Scotland in May 1987 and to a career move away from development and into retailing.

But Martin has recently gone full circle and returned to development with his new 32-bit board – the first AMS sales product to have been developed in-house.

Taking a philosophical standpoint, Martin says that nothing is planned in his life. He reacts to given situations and goes on from there.

At the recent Computergraphics Show he was approached by a number of high-end graphics companies with offers for him to take their product ranges. He may well do so.

Is his future with the Amiga also in the lap of the gods? He believes it is more in the lap of Commodore!

"It depends a lot on the future of the Amiga and whether it can keep up with high-end graphics, and that depends on Commodore", he said.

"The Amiga's got future potential but that is not guaranteed at this point in time. It all depends on what actions Commodore take both on understanding the marketing of the product and on immediate and future development of it".

CARTRIDGE ATTRACTIONS

WITH quicker loading times, better quality and the distinct advantage of stamping out piracy, games cartridges are an attractive proposition to which the team at The Software Business (0480 496497) are giving serious thought.

"I would like to see an environment where there are only games cartridges in the near future", said Howard Newmark of The Software Business. "Apart from the advantages of loading and quality, they would completely cut out piracy.



Software Business' Howard Newmark

"At the moment it is a question of how to keep costs down and what sort of games to put onto cartridge both for Amiga and C64

Although we can't give any idea of timing yet, it is certainly a serious proposition for the future".

Cartridges would slot into the expansion slots of the A500 and A1000 giving games players reliability combined with the convenience of having one cartrdige to contain what is currenly based on five or six disks.

Two or three games can be included on each cartridge depending on the memory they require.

"The cost of the cartridge-based games would depend on the cost of the raw cartridges, which is currenly around £9 for the Amiga", added Howard.

"But rather like with CD ROM products, once the market is penetrated the ability to buy in bulk will cut the costs through quantity discount".

WHAT'S new

recognises and fully supports PAL and NTSC. It works in high or low resolutions, whether interlaced or not, with full overscan utilising up to 3Mb of RAM.

In an effort to provide the Amiga world with an affordable alternative to SCSI drives the company has developed AdIDE. This is a small host adaptor allowing the use of the less expensive IDE standard hard drives.



ICD's Flicker Free Video

Easily installed into machines up to and including the 2000 series, AdIDE supports auto-booting with Kickstart v1.3. The software provided also allows for external booting from floppy disks. This enables a 3.5" hard drive to occupy the A500's internal floppy space while permitting full use of an external floppy.

IDC have also come up with the idea of enhancing the value of their ADSCSI 2000 series Amiga hard disk controllers. Connected to the internal or external SCSI hard drives the ADSCSI 2000 was available as a hardcard complete with either a 40, 105 or 170 megabyte HD from the Quantum range.

However, the host adaptor is now available with the upgraded Quantum LPS series, which uses half the power of the old drives and transfers data some 30 per cent faster.

In addition IDC are offering a 52Mb HD instead of the 40Mb option at the same price as before. An extra 12 megabytes for free can't be bad.

For prices and further details contact Silica Systems on 081-308 0608.

DOWLING POSTSCRIPT

As a follow-up to our item of news in the January 1991 issue of *Amiga Computing* entitled "Great T-Shirt Raid", Sandy Dow of Dowling Computers gave us the following statement:

"The T-shirts were not being sold at £15 each, the correct price was £5 and this was to be donated to Dr Barnardo's. However, after two had been sold we were asked to withdraw them from sale".

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NEW! - AMIGA PACK

Commodore A500 Flight Of Fantasy

£399 INC VAT



A500 BATMAN PACK



The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the **Commodore Amiga 500 computer** with **mouse controller** and **TV modulator**, plus four top software titles. The software includes: **'Batman The Movie'** - Rid Gotham City of the cunning joker, in Ocean's top selling title based on the blockbuster Batman film; **New Zealand Story** - high quality conversion of the leading arcade game; **Interceptor** - Dogfight with two F-16's in this leading flight simulator; **Deluxe Paint II** - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

PACK INCLUDES:

A500 Computer & Mouse	£399.99
A520 TV Modulator	£24.99
Batman The Movie	£24.95
New Zealand Story	£24.95
Interceptor	£24.95
Deluxe Paint II	£49.95
TOTAL RRP:	£549.78
Less Pack Saving:	£150.78
PACK PRICE:	£399.00

£399 INC VAT

AMIGA 2000



For the more serious or professional applications user, Commodore have a selection of systems based around the expandable Amiga 2000, at prices from £1295+VAT. The A2000 features a full 1Mb RAM (expandable to 9Mb), 9 system expansion slots, plus IBM compatibility with the use of PC-XT or PC-AT bridgeboards. Complete and return the coupon, putting a tick in the A2000 box, for details of A2000 computer systems.

£1295 +VAT= £1489.25

FLIGHT OF FANTASY

Flight of Fantasy is the very latest Amiga 500 pack from Commodore, featuring BRAND NEW software releases, to make this the most spectacular A500 pack ever! The pack features the Amiga 500 computer with mouse controller and TV modulator, as well as four top software titles. These include the following:

DELUXE PAINT II:

The high quality graphics program that set the standard for other Amiga art packages. Deluxe Paint II includes powerful, easy to use tools that bring out the artist in you. Create masterpieces, presentations, 3D perspectives or just doodle.

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Here's something completely different - a science fiction story with comic book style graphics. Our heroes Jake and Duke are on the Planet X rescuing Humans who have been captured by the Robot Monsters and forced to create an evil Robot Army to DESTROY EARTH! Jake and Duke fight their way through hordes of evil Robots to help the Humans escape.

RAINBOW ISLANDS:

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F29 Retaliator	£24.95
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Less Pack Saving:	£145.82
PACK PRICE:	£399.00

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Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Shop, we ensure that you will have nothing to worry about. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Shop Service".

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Which computer(s), if any, do you own? .... A2000 ☐

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Sorry for any inconvenience.

Software piracy is not only illegal, but it makes Cosmo very angry as well.



COSMO'S MESSAGE FOR THE MONTH

"Yo Dudes, Cosmo 'ere. Ows it banging dudes? As you see, some of the stuff 'ere, like that new Cumanery Rewritey Opty discy thing, or whatever its called, is totally cool dudes. As well as dem, Mr Mikes got loads of Cumanery discy drive things and some Goldeny Image ones as well, not to mention some optical micey things which don't have a ball on 'em, no 'ow does they work dudes? Maybe Mr Mike knows. Thats about it dudes.

Ta Ta for now and stay lucky"

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Cabbages or kings

There's a classroom full of software out there, but is it good enough to get the kids through their 'A' levels? Dodging ink blots the size of snowballs, Amiga Computing chalks up a few marks out of ten

Time was when education involved nothing more than the Three Rs – reading, riting and rollicking good clips about the ear if you stepped out of line. Free dinners, short trousers, Miss, Sir and the cane were the order of the day.

Nowadays, however, all that is a thing of the past. Today's pupils wear comfortable sweatshirts, chinos and hi-tech sports footwear, are on first-name terms with their teachers, enjoy fast food lunches and are as likely to be taught by silicon as by Sir.

What's happened? Are they really growing up faster than they used to, or is sophistication forced upon them by an adult world keen for children to embrace technology in its many guises?

Actually, a combination of the two. Children are only children if they're defined as such. If they're pushed into putting away playthings, then an upturn in ability and maturity are likely results – probably followed closely by a downturn in emotional stability.

The advent of the media age has brought with it for children a greater understanding of the society in which we live. They're bright, active and able, and what better way to make use of these attributes than by computer tuition?

When computers first became available to a home audience manufacturers were quick to realise the potential of education



as a selling point for their silicon wares.

A shade unethical perhaps, but what a great way to tout your machine by playing on the understandable fears of every parent worried about their little Johnny and his abilities at school.

"...the new Zmegma XL205, with its breath-taking 1K of valuable RAM memory will stretch the abilities and expand the mind of any child..."

What they didn't tell you was that the only stretching and expanding going on was while the kids figured out how to get anything even vaguely usable into 1K.

At least children had relatively cheap access to the new technology even if it wasn't especially good.

Many a £million was made by a computer whizz-kid with a Zmegma in his lap.

Today, it's all changed. Every teenager has a 16-bit in their bedroom and the software houses are banging out educational programs like the stuff's going out of fashion.

Fine. But many people are justifiably worried that leaving their kids in the hands of – unproven, as far as teaching is concerned – computers, may result in them becoming cabbages.

True, lots of educational software houses employ teachers either as programmers or on a consultancy basis, but by no means all, and although computers can be excellent as a teaching aid, they must be used and programmed correctly.

Enter Commodore

Your favourite manufacturer and mine is not, in fact, heavily into the educational scene as yet.

That market is still populated by the likes of Acorn, but Commodore is making moves in that direction in order to break into what can be an exceptionally lucrative market in terms of both cash and kudos.

The introduction of the ill-fated Beebulator was an attempt by Commodore to get around the problem of the wide acceptance of BBC Basic as the teaching language in schools.

Unfortunately however, the emulator doesn't seem to have done much in the way of promoting Commodore into the educational limelight.

Third-party manufacturers are making moves in the same direction and it remains to be seen whether or not they'll have any more success than Commodore.

The fact remains that the only way to get Amigas into schools is by selling them on their own capabilities, not those of some inferior, 8-bit machine.

Despite the inability of Commodore to get Amigas on desks, there's no shortage of educational software packages for the machine. *Amiga Computing* has gathered together a selection covering many aspects of education in order to determine once and for all the quality of just what's being sold under the educational banner.

Play and Read series, Prisma Software – £24.99

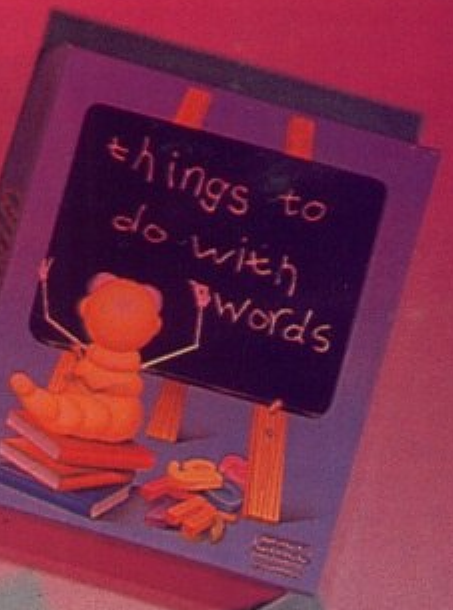
This is a hefty series of packages aimed at taking the child from a simple sight vocabulary all the way up to constructing full sentences.

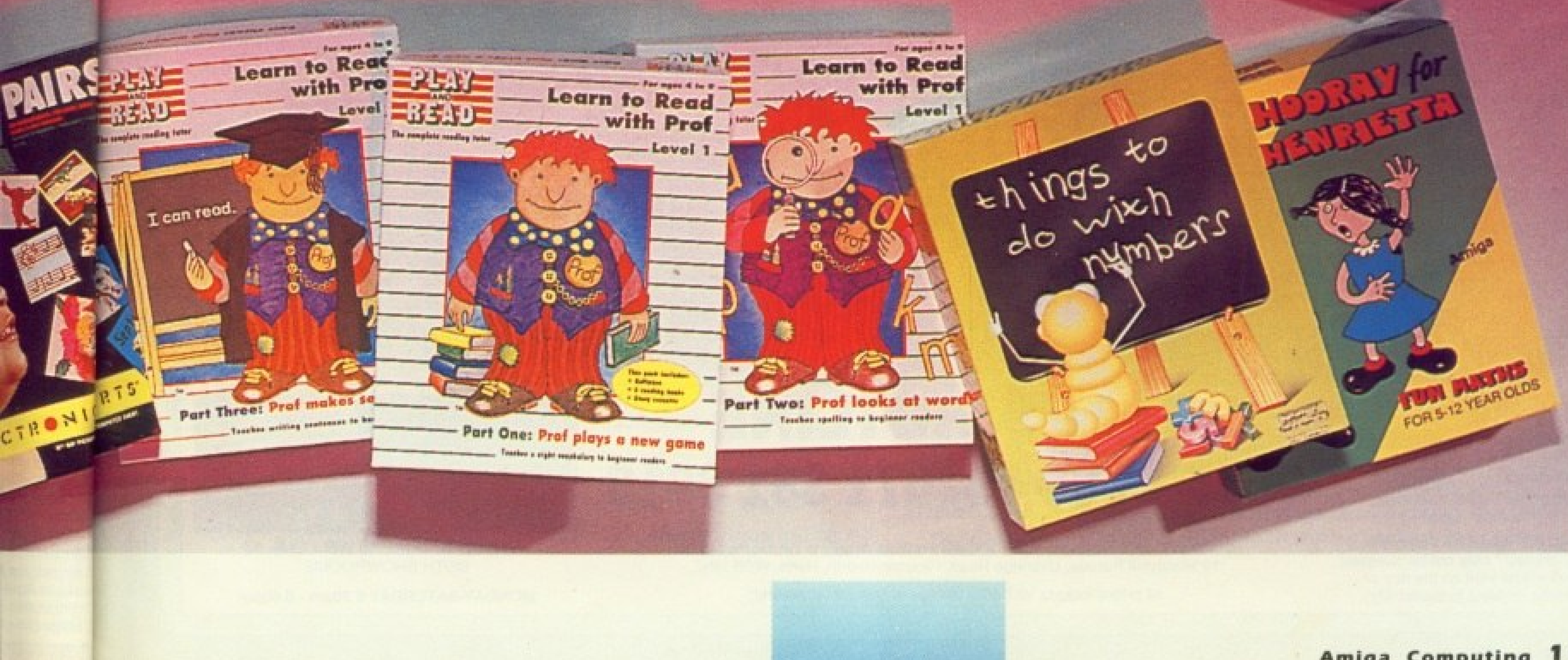
Split into three levels, each of which has four parts, it aims to take pre-school non-reading children through a gradual attainment curve by playing with words, and rewards success with end-of-level style graphics.

Unlike some education software, the design of the Play and Read series is one which treats the computer as no more than a new tool for teaching.

The bulk of the hard work is left to the parent/teacher, who must utilise the reader books and story tape in the package to guide the child through his or her first steps in reading.

To help you in this, the package offers fairly clear instructions on the step-by-step use of the tools, so even technophobic parents should be able to cope easily enough. If, despite this, you find yourself in





difficulties, a quick phone call to Prisma should sort you out. I found them very helpful.

The reading game itself is a bit basic as far as graphics and sound go, but these usual touchstones of quality don't hold as much importance in education software when it is written for four year-olds.

Play and Read offers a simple "choose a word" game which the parent/teacher supervises and participates in. This is consistent enough to hold a child's interest for the duration of an average lesson.

The aim of the first part is to find words that begin with a particular letter, and thus build a vocabulary of words from sight. The child controls a small man, moving him around a three level platform until the letter or word has been chosen.

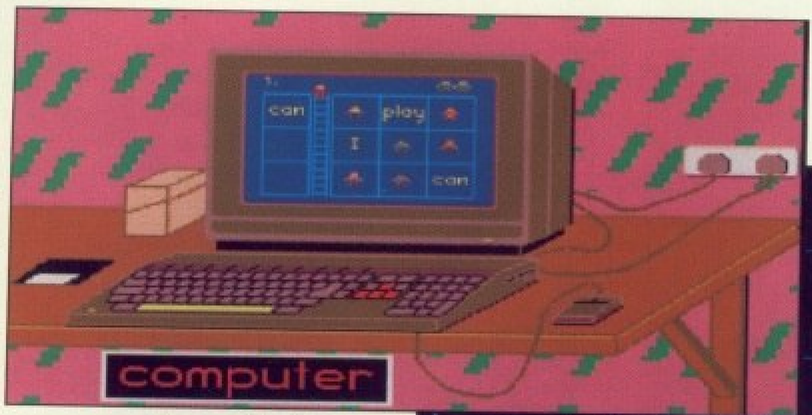
If this is correct, a quick tune plays and a happy green character appears over the game area as confirmation. Subsequent successes can build up a whole row of these, so the child can see just how well he or she is doing.

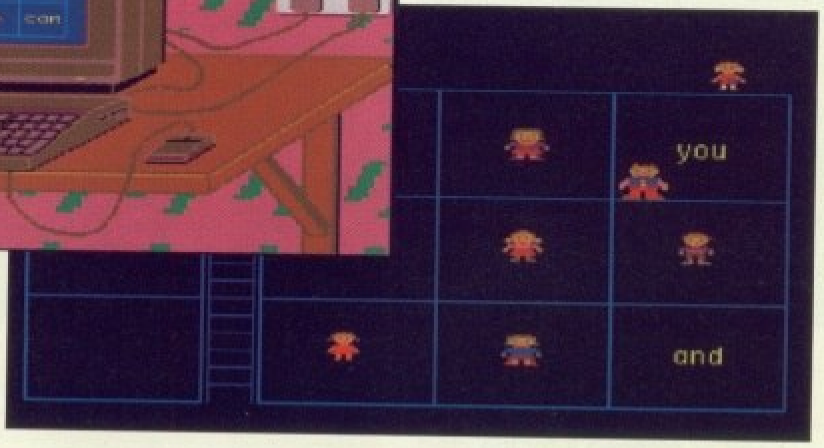
In parts two to four of the first level, pupils are taken through vowels and the way words are made up, simple sentence construction, and a more advanced hunt-the-word game, all of which can be tackled at different ability levels.

Taken together with the books, the audio tape, and the required participation of a parent/teacher, the thrust of the entire level is consistent and well integrated.

According to Prisma the BBC Micro version of the Play and Read series has been used in schools since about 1985 soliciting delighted reactions from teachers and parents alike.

The first level of the Amiga ver-





Play and Read shows its BBC Micro ancestry but is still a viable Amiga education package

Fun School 3

Database Software – £24.99

The latest release of the popular Fun School software was revised and updated on the introduction of the National Curriculum with its requirements strongly in mind.

The series consists of three packages aimed at the pre-school, five to seven year-old and over seven years age brackets.

The first is geared to prepare children for the curriculum while the latter two were coded after consultation with the Department of Education. In addition French and German versions will shortly be released.

Each package consists of six games which address a particular aspect or idea deemed important in the National Curriculum. For example, the notion of control in information technology is stressed in DoE guidelines.

So for each age group there is a game in which the child has to control anything from a teddy bear to a Logo-like graphics pointer in order to succeed.

Other aspects covered range from word or shape identification to basic maths, and in complexity from the simplest concepts for toddlers to quite tricky maths for older children.

One game in particular, Planet Maths on the Over 7's disk, can do the seemingly impossible by making sums entertaining. The child has a certain amount of time to answer a maths problem before it drifts into a force field and is zapped. If answered correctly, a missile shoots out of the sum itself and destroys the obstacle. Hardly the times tables I remember!

Unlike Play and Read, Fun School uses the computer as its only main tool and doesn't include reading materials or audio tapes. It makes up for this, however, by sporting the best graphics and sound of any educational program available on the Amiga.

Parent/teacher involvement is not as important to Fun School as their input is restricted to controlling the way the software is used. To this end the manuals are quite good at offering ideas.

The whole thrust of Fun School, however, is suggested in its title. The packages are slickly programmed, very colourful, and contain many pieces of spot sound effects and animation. The programs are aimed at giving the child a good deal of enjoyment while learning, and it is on the success or failure of this ploy that the software should be judged.

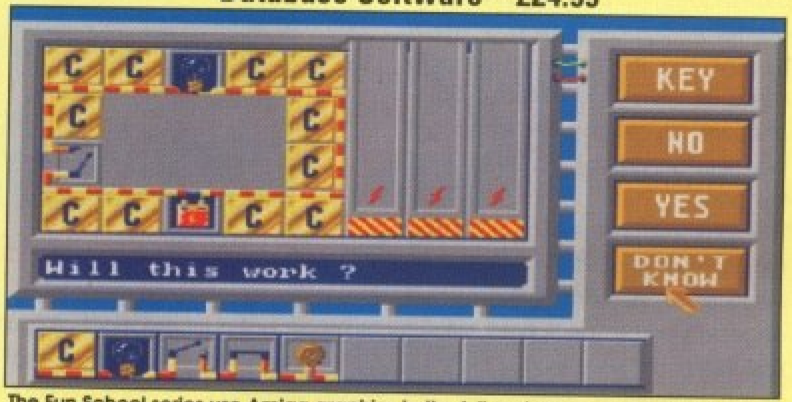
Unfortunately, as Fun School 3 is not yet available in BBC or PC versions we can't tell how well it will go down in schools. As yet there are not enough Amigas in schools to provide a platform for the software, but if the quality of its programming is anything to go by, it should do well.

My only reservation concerns the amount of parent/teacher involvement allowed for in the basic concept. As it aims very much towards a self-contained computer education package, it risks excluding the adults to an unacceptable degree.

They have to make an effort to guide the child, who'd quite happily carry on with the user-friendly games on his own, rather than being an integral part of the process.

However, the manuals provide enough guidance and ideas for the uses of Fun School software to partly offset this, and the games are more than capable of educating without it being noticed.

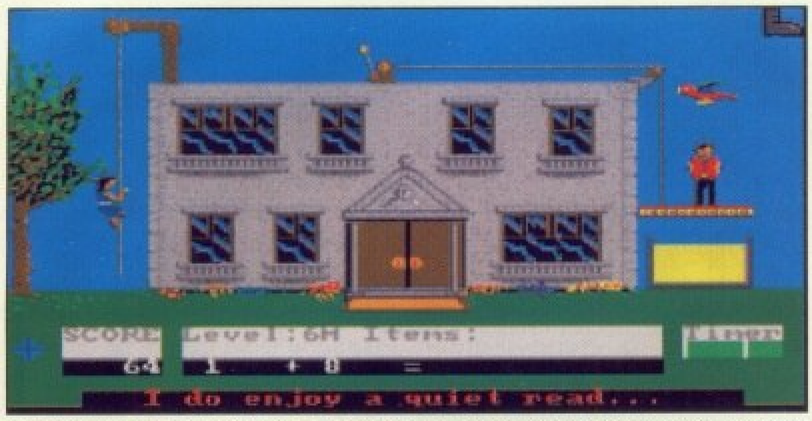
With its superior sound and graphics and easy mouse-driven interface, Fun School 3 is one of the best education packages around on the Amiga and will be a first choice for many parents.



The Fun School series use Amiga graphics to the full and covers many topics



Planet Maths is an excellent example of how learning can be made entertaining



Hooray for Henrietta pits your maths skills against the clock before Henry gets splurged

sion is now available, and if it can repeat the success of its 8-bit ancestor, it should be a worthy addition to the currently restricted range of Amiga education software.

Hooray for Henrietta, Scetlander Software – £24.99

Despite its dubious Home Counties title, this program is written by a Glasgow company, who might be suspected of taking the Michael. This is another program claiming to follow the guidelines set down by the National Curriculum and, like the two already examined, attempts to cover attainment levels one to five.

Hooray for Henrietta is the first in a series of educational games from Scetlander produced as a joint project with the Scottish Council for Education and Training (SCET) and Scotlander plc – hence the company name.

It concentrates on fun maths for five to 12 year-olds, and has a stablemate in the shape of Henrietta's Book of Spells. The package is similar to Fun School in that it contains no material other than the software itself, focusing all the educational thrust in the on-screen action. In the case of Henrietta, this comes as a race against time.

John the Parrot has stolen all Henry's clothes and the only way Henrietta's wedding can go ahead as planned is for the child to rescue successive items of clothing from the feathered fiend.

Henrietta must answer a series of maths questions before winning the game. At the beginning of each section she is faced with a rope climb or a similarly tortuous path, and only by getting her sums right can she progress inch by inch to her goal.

All of this is done against the clock, which gives the package an edge of excitement similar to that engendered by Fun School. Where Henrietta differs is in the parent/teacher interface.

When the program loads up, the adult can chose to go straight to a program configuration section that allows control of the eight difficulty settings and timer speeds, so that a high degree of control is available.

The harassed teacher struggling to control 30 or more pupils will probably set this once, then leave them to get on with it. For the parent with a lot more time to spend, the facility offers a welcome opportunity to cater specifically for the needs of one or two children. With a bit of perseverance, the difficulty level of questions and the time given to answer each can be quite finely adjusted.

The options allow for the program to concentrate on any one of the four arithmetic operations – multiplication, division, addition, and subtraction – or all four at once. A recording option will also keep a comprehensive scorecard on each child and give parent or teacher instant access to details of a child's progress.

For all this, the program is a bit limited in that you only get one subject and the quality of programming isn't quite as good as Fun School.

However, if you find parent/teacher control of a program's difficulty level is important and you've got the time to closely monitor the



If you're too slow, John the Parrot has his wicked way. The incentive is to get the sums correct

Match Pairs

Electronic Arts – £19.99

Strictly speaking, this is not an education program, but as it is marketed as a memory game and involves pattern recognition, memory exercises, and shape co-ordination it falls into our area of interest.

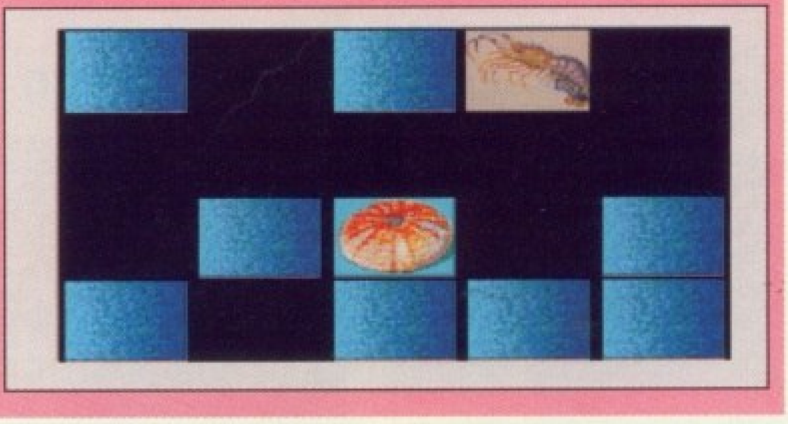
The game concept is simple and familiar, a little too much for my liking.

The player is faced with a grid of cards reverse side uppermost. He turns over two at a time, which if they match are eliminated and he has another go. In a straight contest against the computer the player attempts to match more pairs and so win the game.

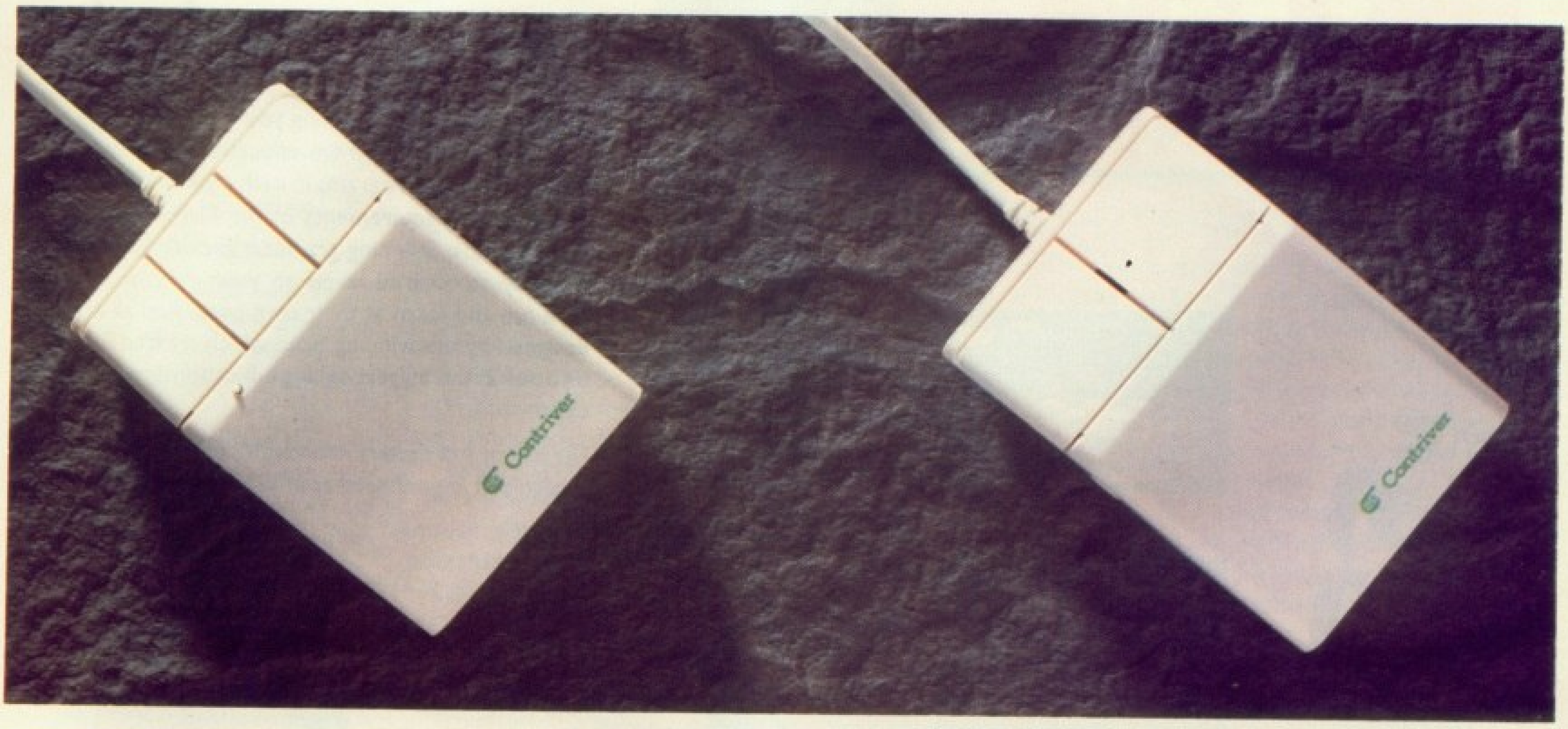
The educational aspect of Match Pairs is contained in the way it encourages a child to recognise different shapes or pictures and to remember where on the grid they last appeared.

Shape and pattern recognition are two important elements in the early development of language, and it is interesting to see how they can be brought out through a program which is more of a game than anything else.

Match Pairs is perhaps not very good value for money, but it is an encouraging sign to see one of the giants of entertainment software releasing a program, which has even the faintest whiff of educational value about it.



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record of a single child, the Henrietta series is a very good choice.

Let's Spell series
Soft Stuff £19.95

This offering is aimed more at the parent at home than the teacher in the classroom. It also doesn't claim a link with the National Curriculum.

However, as Soft Stuff is one of the older educational software companies it is a series you will find in its BBC guise, in many a classroom.

Let's Spell is based on a simple concept, which is less dependent on game elements than most of the others.

The child is presented with a graphical representation of the environment concerned, whether it's the home or the shops.

By pointing and clicking with the mouse the computer moves to the area he or she is interested in – the bathroom or grocers, for example. Once there, clicking with the mouse on one of the objects located in that area brings up the game's main interaction screen where all the spelling goes on.

A blowup of the chosen object is shown and the child is invited to spell out its name by clicking on the letters of the alphabet. When this is done the letter is spoken in a voice that has been sampled from a young child. If spelled incorrectly, an adult voice says "try again" in encouraging tones.

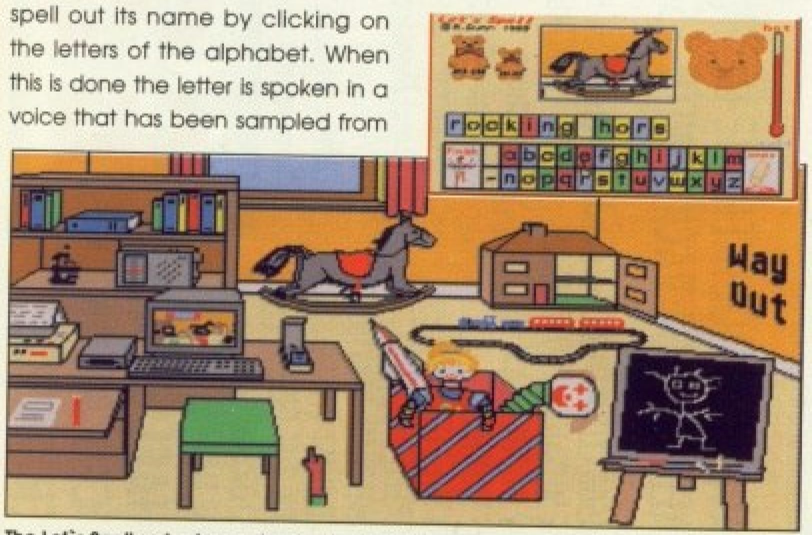
Mistakes can be easily rubbed out with the Oops icon and nothing is ever totally wrong. The program highlights both the wrong and the right letters in each spelling attempt, and can even hint at how hot or cold the child is when choosing letters.

On the whole, the program is well written and has a very appealing look. Apart from typing in the letters themselves, everything is mouse controlled and bright, colourful screens.

Correct answers are rewarded with a tune, and when wrong the child is shown why and encouraged to rectify the mistake.

The program has the advantages of being virtually supervision-free and capable of sustaining interest levels, but is hampered, as with other programs, by concentrating on just one subject.

With the addition of a simple arithmetic function, Let's Spell would have been a much stronger contender and would have been a natural rival in Fun School's general category. However, it is still a perfectly respectable offering in its own right.



The Let's Spell series has a simple aim, but it is carried out with some style

The professional viewpoint

Teacher Claire Stevens writes for *Amiga Computing* on how educational software is being used in the classroom

Computers in the school serve two distinct functions. The first is as an aid to learning, and I cannot stress the word aid too strongly, while the second is as a subject in its own right.

As a device to encourage and assist children in an exciting learning medium, the computer is a wonderful tool. Largely free of supervision, a never ending trail of bodies wend their eager way to this piece of electronic wizardry to reinforce a wide variety subjects.

Software on every aspect of education is now widely available to the professional – from spelling and sentence construction, to the creation of an electrical circuit.

Sadly though it's never a case of "what can we buy to cover this area of learning?", rather it is "what can we afford to fill this gap?".

As a curricular topic, an almost professional level of subjects are covered in the classroom including programming, word processing, databases and spreadsheets. Everything, albeit at a basic level, required to equip the school leaver to face a hi-tech world.

Not just playtime

The following is a list of subjects currently covered in the classroom:

- Logo: A programming language suitable for a wide age range.
- Adventure games: A word and screen exploration activity designed to build computer confidence and inquisitiveness.
- Simulations: A project building procedure which helps in the understanding of real-life occurrences. One example involves discovering, exploring and raising the Marie Rose.
- Word processors: Used initially to develop keyboard and writing skills, this area also goes on to full function WP including basic typesetting.
- Databases: Starting with simple search routines, this section continues onto data entry and eventually to database manipulation and design.
- Control: An attempt to help the child understand the way in which a computer controls external devices.
- Craft design technology (CDT): An investigation of the way in which we have adapted our environment to fit our needs.

Comprehensive isn't it? And from my dealings with the public, substantially more than the classroom is credited for by the media.

I'm also a parent, and I see the home computer market forging a powerful alliance with the school. It provides our children with additional hands-on time with the benefit of closer and more immediate supervision.

Game skills a waste?

Just as an aside, it must be said that games too, furnish children with beneficial skills. Beside the obvious hand/eye co-ordination of shoot/beat-em-ups there are the puzzle and adventure programs that provide real intellectual stimulation.

My seven year-old son would spend hours playing games if allowed.

Some may worry about about this, but when you realise that his brain is analysing, problem solving, remembering and timing at extreme speed, the anxiety is wasted.

After all, pilots and astronauts use these very skills in some of society's most valued professions.

Conclusion

Whether the packages we've looked at are any good rests on what you're looking for from a computer. This may sound like a cop-out, but it's true.

A teacher will be looking for software that meets educational standards and which can keep the little monsters happily learning with the minimum of supervision.

A parent on the other hand will probably look for something to encourage them to get involved – by sitting with the child and taking him through it. Each of these concerns are addressed with differing measures of success by all of the packages outlined.

What is not in doubt is that the Amiga can stand on its own two feet as a tool for education. The hardware was always up to it, but the software has only now developed to the point where it is as good as many of the packages on other machines in the education market.

You pays your money and you takes your choice, but it is satisfying to see a lot more than was on offer to Hobson!

As a machine used to back up the work done in the classroom where Acorn have an unassailable lead, the Amiga is a good choice.

As a tool for the teacher, however, it still has a few exams to pass.

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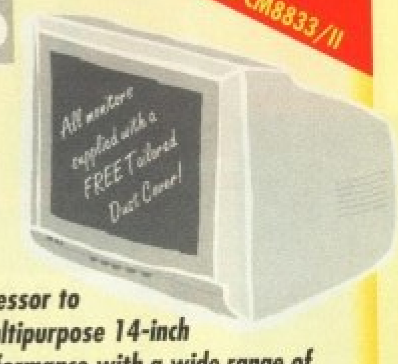


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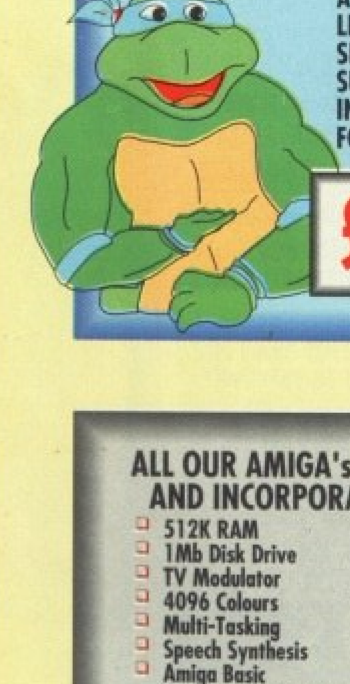
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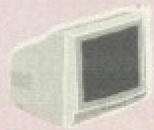
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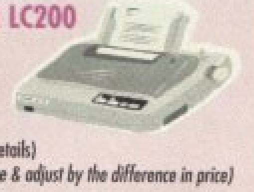
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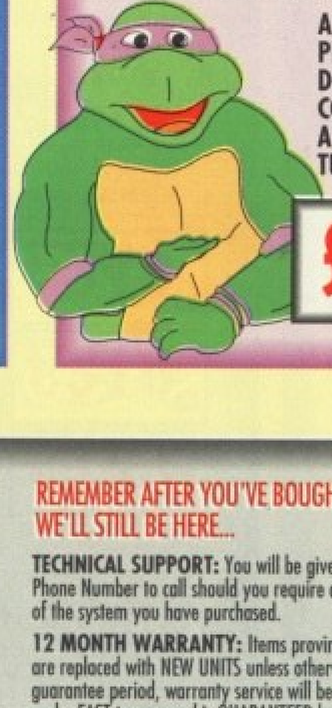
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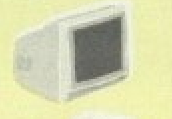
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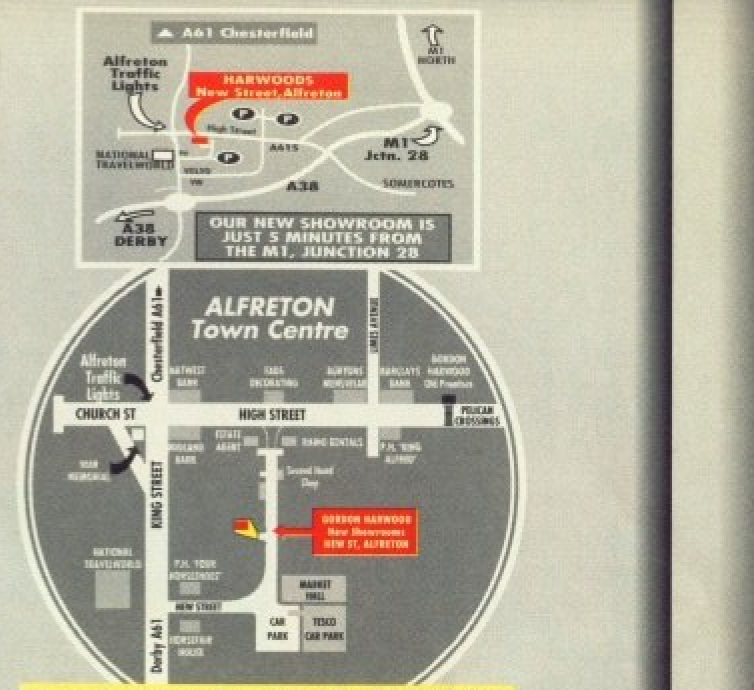
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How To Use The Disk

First of all, you must make a back-up copy of the disk. To do this, boot-up with your copy of Workbench, then double click on the Workbench disk icon, followed by the Shell or CLI icon. Now type:

```
DISKCOPY FROM DF0: TO DF0:
```

Or, if you have an extra disk drive, put a blank, formatted disk in DF1: and type:

```
DISKCOPY FROM DF0: TO DF1:
```

Follow the on-screen prompts until the copying procedure has ended, then put your original disk away in a safe place.

Now switch off the machine and wait for 30 seconds before re-booting with the copy. Wait until the CoverDisk17 icon appears, double click on it and away you go.

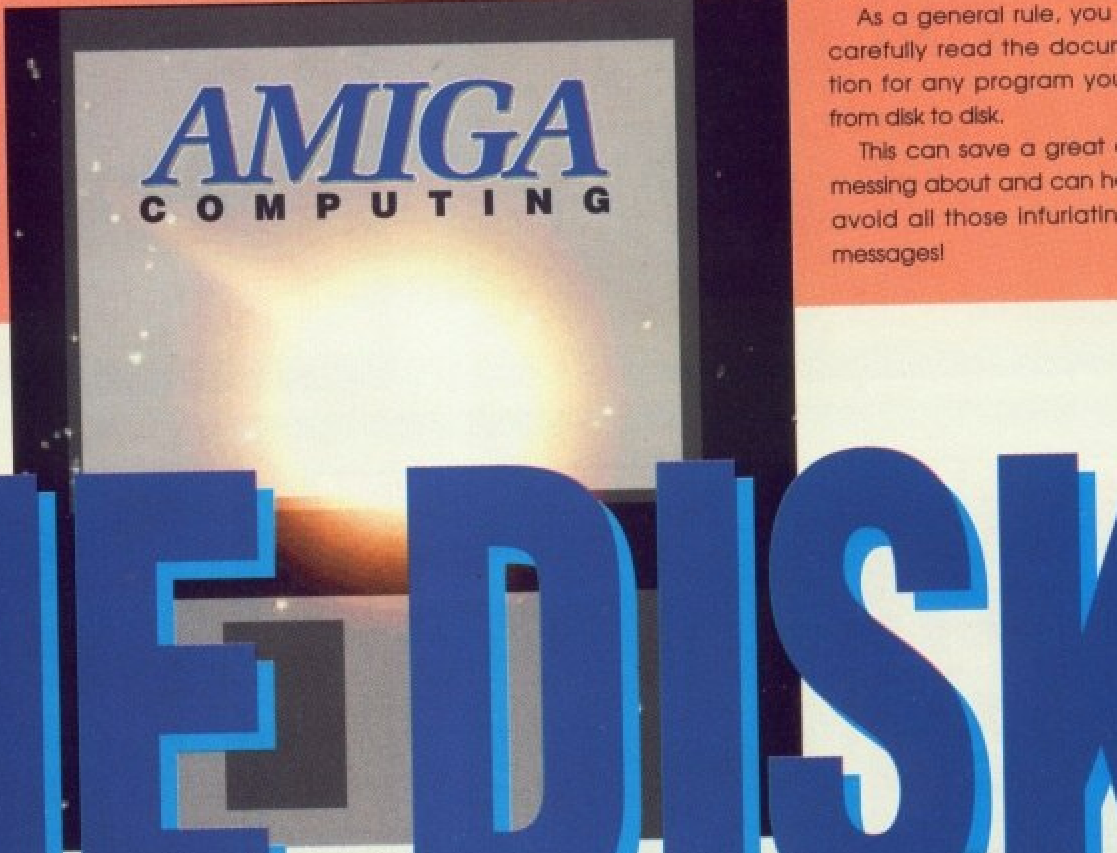
That's all you need do to make a straight copy of the entire disk. However, you may also want to to copy individual programs from your copy of the coverdisk to a separate disk. In this case ensure that you fully understand which related files need to go with it.

For example, all of the document files on the disk require that the text editor PPmore is in the current disk's C: directory. Therefore, if you copy the docs to a new disk you will also have to copy PPmore to the new C: directory before you can read them.

Some of the smaller docs will not have been crunched, so for these you need only change the tool types on the icon's info screen to reflect whichever text editor you do have on the new disk.

As a general rule, you should carefully read the documentation for any program you copy from disk to disk.

This can save a great deal of messing about and can help you avoid all those infuriating error messages!



THE DISK

Klondike

Author: Peter Wiseman

That perennial favourite is back! Card games are a big hit on coverdisks, if your letters are anything to go by, and Peter's implementation of this classic should be as big a success as any.

The graphics are smooth and colourful, and there is even a measure of sampled sound effects to lend it a quality feel.

The game plays according to the standard rules, and there shouldn't be too many of you who don't know them by now.

However, if you are one of the two or three people in Britain who can't play Patience/Klondike, the game thoughtfully includes a rules option, which can be accessed through a regular menu at any point in the game.

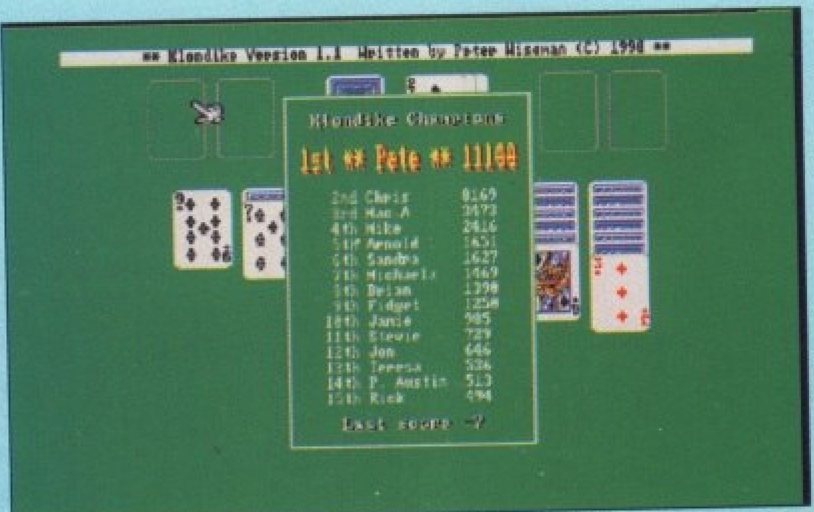
To start, hold down the right mouse button and select new game from the Game menu. You will then be treated to the digitised sound of someone shuffling and dealing the cards into the familiar pattern of seven columns with the topmost card turned face up.

To move a card from one pile to another, click on it with the hand pointer – you'll see the thumb and index finger pinch together – then drag it to its new position.

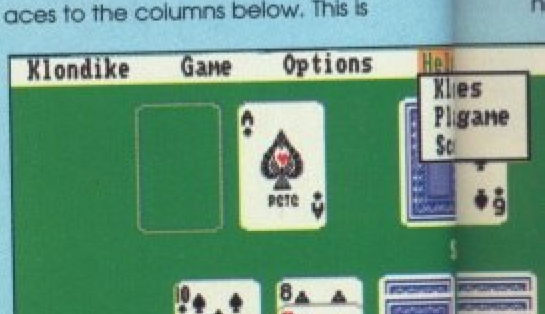
If the move is legal the card you are about to cover becomes a dimmer shade of grey, but if the move is illegal the card you were dragging flips back to its starting position.

Aces can be moved to any one of four empty boxes waiting above the main card table and cards exposed by a legal move are turned over by clicking on them.

The only point at which the game diverges from the rules is when it allows you to return cards previously stacked on top of the aces to the columns below. This is



As you can see, we managed to get on the high score table - just!



If you need help with the game,there are handy availab

Welcome to another rip-roaring *Amiga Computing* coverdisk. Remember – *Amiga Computing* is (probably) the best Amiga mag in the world, which means you can't get better than our coverdisk.

Each month we try to bring you a selection of the best reader submissions and the cream of what's on offer in the public domain. You'll find games, utilities, virus killers, and more on every feature filled floppy. Read on!

Workbench hacks

Leftymouse is that rare beast, a useful Workbench hack! It reverses the way in which the mouse buttons function, so left becomes right and vice versa.

Any left-handed mouse user reading this will tell you how irritating it is to have to use a device designed for right handed people. To switch off Leftymouse, double click on its icon again.

Target is an old favourite which turns your mouse pointer into a gunsight and makes a Dirty Harry style gunshot sound every time the left mouse button is pressed.

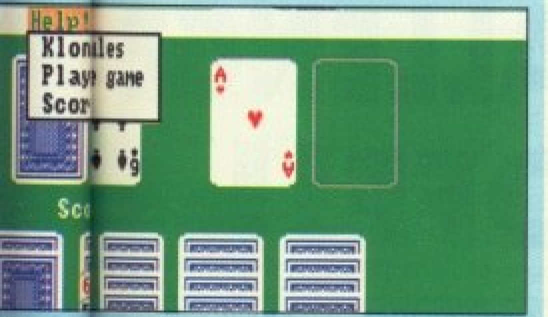
This is great fun to start with but can become annoying, so if you want to turn it off, put a joystick or mouse in Port 2 and press fire or click the left button.

Try turning it on more than once – you get a nice reverb effect, but watch out for gurus.

Eatit is a wee swine of a hack, but

a cheat, so you can't really moan that the game allows you to do it. After all, you aren't forced to cheat are you?

A final note on this program: you must thoroughly study the document file found in the Klondike drawer with the main program, as it contains information you will need if you want to copy the game to another disk. There are certain files NOT found in the Klondike drawer that you'll have to ensure are copied to the new disk.



e handy mons available at any time

Eye

Author: Peter Wiseman

Eye is a program that allows you to view any part of your Amiga's memory and to edit the contents of any address. It differs from some other programs in that it monitors continuously in real time.

So if you want to see the Amiga's internals in action, get the tune of the month up and running, then scroll through memory until you reach an area whose contents are jumping about!

This is most useful to programmers, but can also be fascinating for the lesser mortals among us.

To run Eye either double click on its icon or type EYE when in CLI. The program will load and the main screen will pop up showing an area of memory, its address, and its name.

Unfortunately, this does not include custom chip memory areas, as Eye will not monitor these, but this is its only restriction.

The first thing you notice is how colourful and cheerful looking Eye is, a breath of fresh air in a programming utility. Scrolling through memory is a simple matter of clicking on the large arrows on the right of the screen area, and you can move the cursor around inside the editing window using the mouse.

Memory is displayed in pages of 256K shown both in its hexadecimal and ASCII codes, and can be edited in two ways. First in hex form by choosing the Modify option from the Memory menu or, in ASCII by pressing RETURN to toggle between edit and view modes. The three menus available when using Eye are Memory, Address and Search.

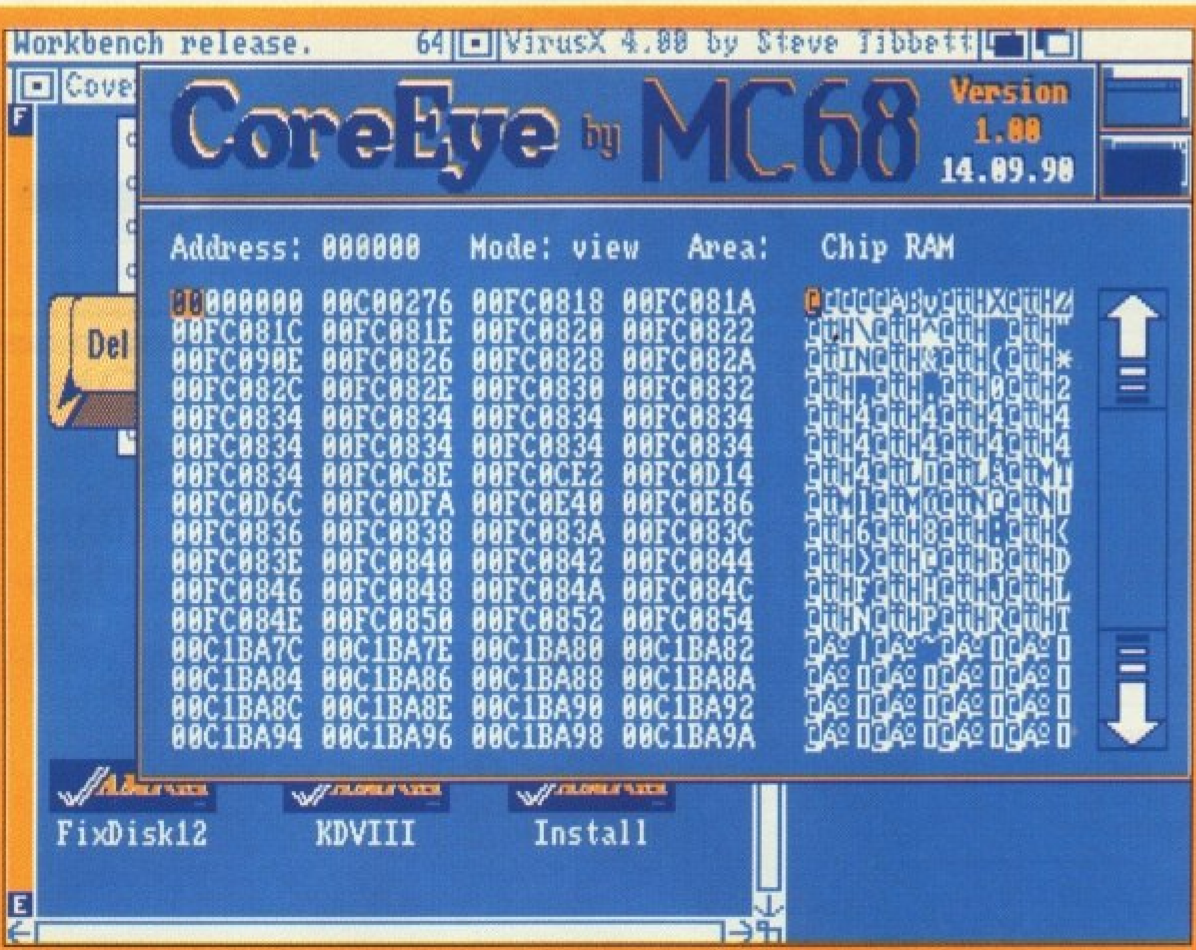
The Memory menu allows you to load a file into memory at the position occupied by the cursor or save a block of memory to disk.

You must be careful to load only into free memory space, because otherwise you are asking for a guru. The two block operations, Fill and Move, are governed by Length, Destination Address, and Pattern parameters, so you should be able to precisely control them.

The Search menu speaks for itself. You may search for a particular ASCII string, hex name, hex long name or task name and, if the program finds it, the window will switch to that area of memory in a twinkle. Using the Address menu, you can flip back and forward one page at a time or jump immediately to a specified address.

These processes are extremely fast and reflect the care which has obviously gone into the coding of EYE.

It's good to see such quality work coming from Eastern Europe where computers in general, Amigas in particular, are in short supply. We're looking forward to more of the same when Andrzej finishes his debugger.



A user friendly programmer's utiliy? Shurely shome mishtake?

is hilarious the first time you see it. By double clicking on this icon you will unleash a horde of ravenous little mouths, which will proceed to eat your Workbench screen.

No actual damage is done, however, and you can use the redraw option to restore things, but the mouths will carry on gorging themselves until you reboot.

If anyone knows a better way of stopping this hack, please get in touch.

FixDisk v1.2

FixDisk is a program which, funnily enough, fixes corrupted disks. If you've ever had read/write errors or had some of your files corrupted, or ended up with a totally scuppered disk structure, you will find FixDisk can solve many of your problems.

It allows you to undelete files, recover files from disks whose directory structure is damaged and retrieve data from damaged tracks. It works with both floppies and hard drives and is mouse-driven for ease of use. More complicated than DiskDoctor, perhaps, but a great deal more useful, this is



If youve ever cursed the limitations of DISKDOCTOR, you'll flip summersaults at FixDisk's capabilities. It should be good enough to save most valuable data, and as utilities go, it's worth its weight in gold

an excellent utility. Full instructions can be found on the disk.

Huge

Author: Nikolas Bozines

Huge is a general-purpose graphics utility of virtual professional quality which allows you to load, save and create images, brushes and even icons.

It has many of the features to be found in commercial paint packages and offers drawing tools such as boxes, lines, elipses and circles.

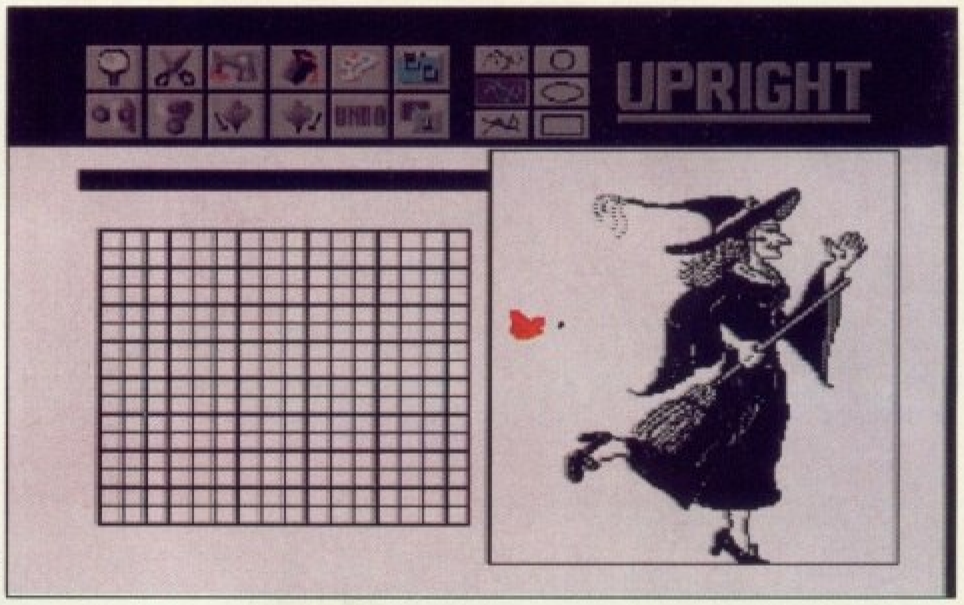
More advanced facilities include fill, zoom, flip, cut and paste and a basic pattern fill.

The whole show is run from pull down menus, and Nikolas has even given the requestors and dialogue boxes a natty new design.

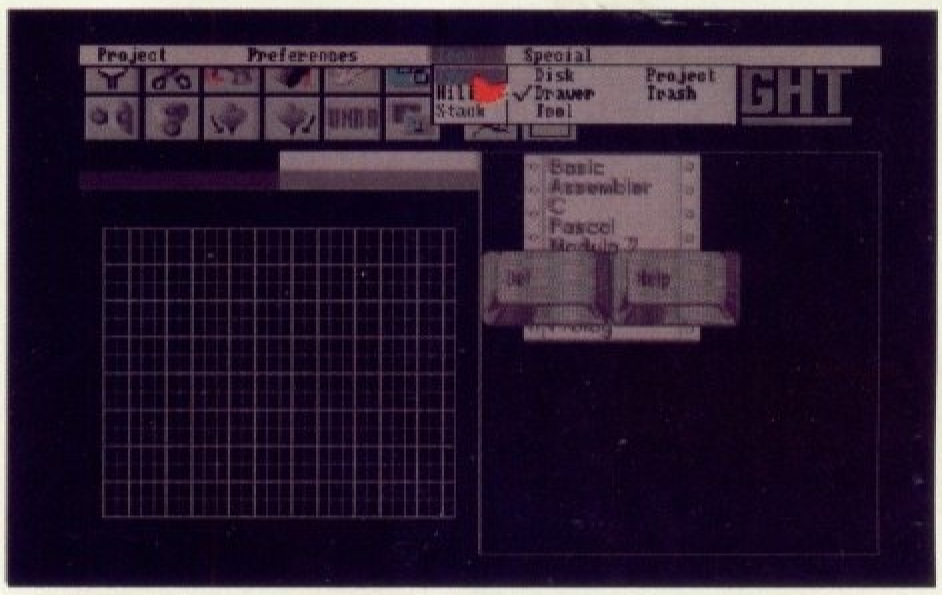
There is pretty comprehensive documentation on the disk so you should be able to get into the program reasonably quickly.

One thing I'd like to point out is that if you run Huge on a standard 512K machine you may occasionally have a problem with memory.

This shouldn't happen very often, but if it does, try closing as many windows as possible before going back into the program.



Huge can handle imported images in IFF format ...



... or will load and save icons, sprites, or bobs!

KDVIII

Author: Mike Hansell

Kill Da Virus III must be run from CLI or Shell or included in your startup-sequence. It will not work from Workbench.

To run it on the coverdisk, activate the CLI window left open when you booted up and type BRUN C:KDVIII.

KDVIII recognises a total of 43 boot-block and file viruses, and while this is not the most comprehensive of lists, it is the best you will find in a program this small and easy to use. All the common beasties such as Lamer Exterminator and TTV1 (or BGS9) are dealt with.

When activated, KDVIII checks the system memory, the boot-blocks of all disks presently in the machine, and looks for file viruses, then iconises itself on the menu bar. To use it at any time, click inside its window with the left mouse button, then hold down the right button.

The program's single menu should now be selectable and you can proceed to install a disk or save, restore and view any boot-block.

KDVIII checks memory every 30 seconds and continues to examine all new disks for boot-block or file viruses. One small problem you may find is that messages relating to non-standard boot-blocks flash through the small window quite quickly rather than being prominently displayed as with other virus killers, so you have to keep an eye out or you may miss something.

To make best use of KDVIII, you are advised to include it in the

Install

Author: David Kinder

It sometimes seems silly that although Commodore went to the trouble of producing a user-friendly interface in the shape of Workbench, they left many of the most common and most useful AmigaDOS commands deep in the jungles of CLI land.

One of these commands is INSTALL, which comes in especially handy when you want to make sure that a disk has no boot-block virus, and when you have formatted a disk using a formatting routine which does not install a normal DOS boot block. With the Install program, you need never again resort to CLI for this function.



Install your disks with a few clicks of the mouse without ever using CLI

startup sequence of your Workbench disk and any other DOS disk from which you regularly boot, such as a word processor.

This seemingly complicated operation is quite simple and can be accomplished as follows.

First of all, boot from the disk whose startup-sequence is to be altered and open CLI or Shell. Now type:

```
ED S:startup-sequence
```

Note that your disk has to have the ED tool in its C: directory. This is OK if you use a copy of Workbench as ED should always be there. When the startup-sequence appears on the screen, use the cursor keys to scroll down until you see a line with the command LOADWB in it.

Place the cursor at the start of this line and hit <RETURN> to make space for a new line. Now place the cursor at the start of the blank line and type BRUN C:KDVIII.

Do not press <RETURN> yet. To exit ED and save your altered startup-sequence, press <ESC>, then <X>, then <RETURN>. You've completed the first step.

The second step is a bit trickier. All you need do is copy the BRUN and KDVIII programs from the C: directory of the coverdisk to the C:directory of your new disk. BRUN is important as it is a routine which starts a program as a background task.

If you just type KDVIII it will run as a foreground task and you will be unable to use that CLI window again until you click on KDVIII's close gadget.

If you have a second drive, place the coverdisk in it, then type:

```
COPY DF1:C/KDVIII TO DFO:C/ <RETURN>
COPY DF1:C/BRUN TO DFO:C/   <RETURN>
```

If you have a single drive system, type CD COVERDISK17 and replace Workbench with the coverdisk when requested, then type the following commands in order:

```
CD C <RETURN>
COPY COPY TO RAM: <RETURN>
COPY KDVIII TO RAM: <RETURN>
COPY BRUN TO RAM: <RETURN>
CD RAM: <RETURN>
```

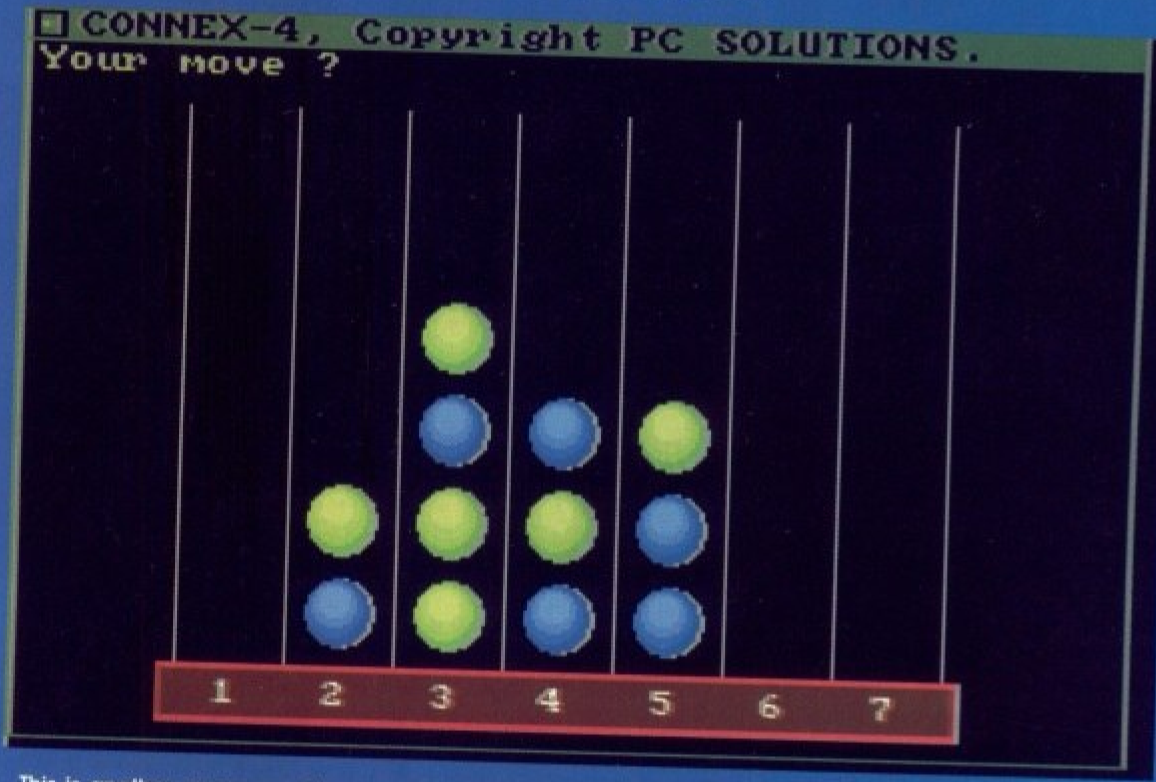
Now remove the cover disk from the drive, replace it with your intended disk and type:

```
COPY KDVIII TO DFO:C/ <RETURN>
COPY BRUN TO DFO:C/ <RETURN>
```

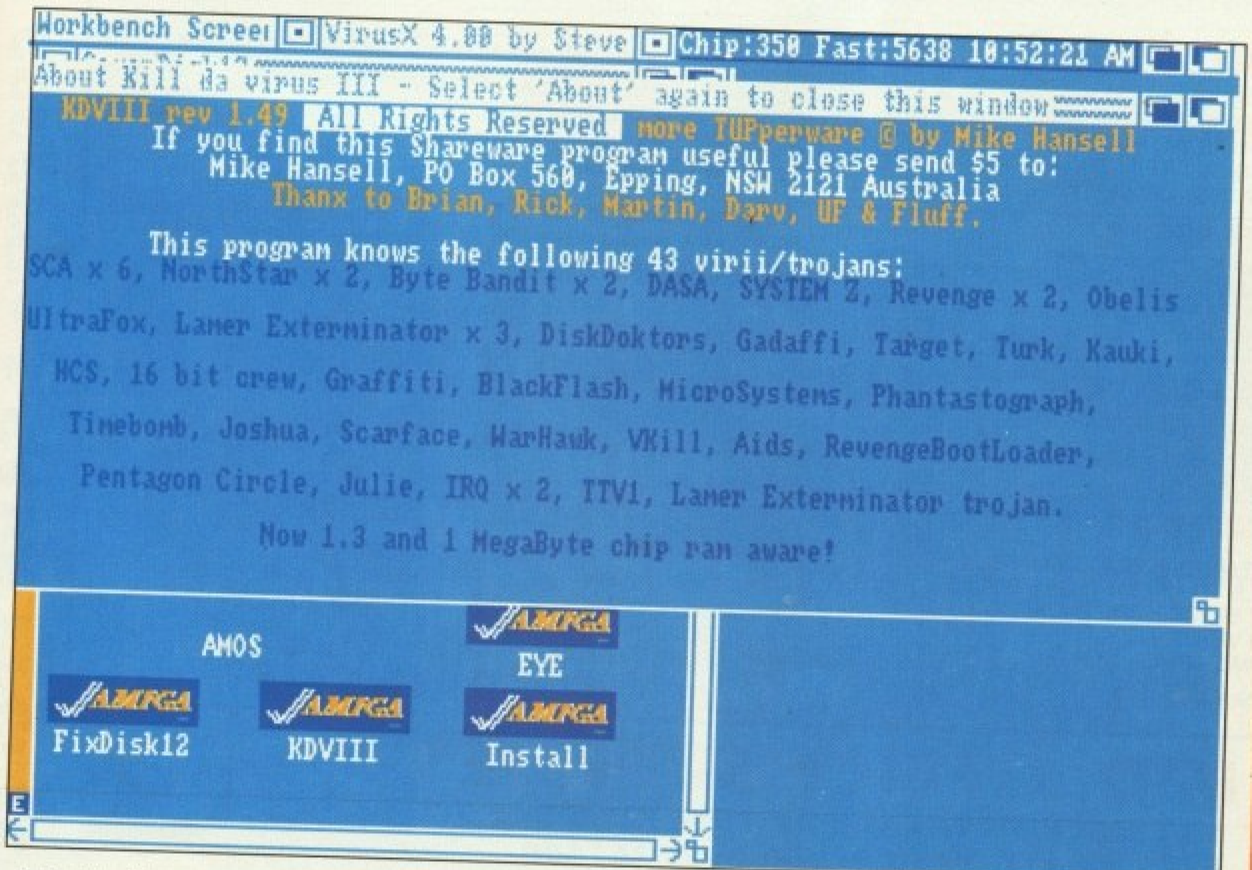
Remember to make sure that you've got enough space to accomodate BRUN and KDVIII on your Workbench disk.

You'll need about 13K, so a straight copy of the original Worbench disk will not have enough room. Erase whichever files from the Utilities drawer you feel you'll not be needing much until you've liberated enough space.

Connex35



This is another game needing very little introduction. If you've ever seen or played a variation of the Connect4 game, then you already know enough to tackle this one. You can play with a friend or against the computer and, if you choose, no human players at all – the computer will play itself and demonstrate just how tough it can be to beat. You won't find Connex35 a walk-over!



Kill Da Virus III will see off 43 diifferent viruses, including some of the most common file viruses, such as BGS9/TTV1

Printer confusion

Please remember that because of a shortage of disk space we usually can't afford to include lots of standard Workbench files on the coverdisk. On last month's disk the Videocat program had a print option which would only work if you use it from a Workbench disk with preferences set to the correct printer driver, and if that printer driver is present the printers sub-directory of the DEVS: drawer.

If you want to print from Videocat you'll have to copy it over to your Workbench disk along with its two fonts, Diamond/20 and Ruby/12, then use FixFonts to update the Fonts: directory before running the program.

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Games *News*

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GAUNTLET 3 – US GOLD

March will see the release of Gauntlet 3. Unlike its predecessors, the game will be played in 3D . As usual you'll be able to take the part of a wizard, warrior, elf or valkyrie. Your goal will be to rid the lands of evil demons, who are rising from the depths of hell in order to cause as much trouble as possible. Detail is still rather sketchy. We've no price as yet and will let you know more as soon as we find out.

SUPER MONACO GP – US GOLD

Converted from the Sega coin-op, U.S. Gold are proud to announce the imminent release of Super Monaco GP. Programmed by ZZKJ, the name behind Super Hang-On and Power Drift, the game sees you as a top racing driver vying for pole position.

Race over four tracks in your bid for the top. Featuring superb graphics and sound, Super Monaco GP will be available during March. Don't miss it!

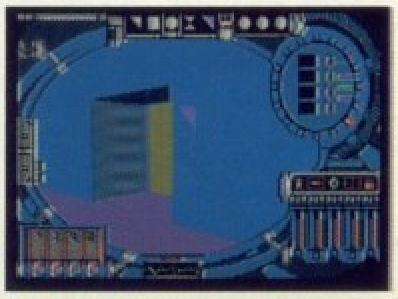
SWITCHBLADE 2 – GREMLIN

It has been two hundred years since Hiro, the last of the fearsome Blade Knights, defeated Havoc and saved both his land and people from certain doom. Rising from his resting place, Havoc has sworn revenge on Hiro's people.

The only obstacle in his path is a distant relation of the late, great Blade Knight – you! Switchblade features six massive levels, each one comprising more than 100 screens. Programmed by the same



team responsible for Venus - The Fly Trap, Switchblade 2 looks set to follow the huge success of its predecessor. Due for release towards the end of March, the game will cost £24.99.



CYBERCON III – US GOLD

Cybercon III was originally designed as a huge defence system, keeping control of the earth's super-lethal armoury. Inside its protective cocoon, Cybercon III's synthetic brain mutated into madness. Turning its immense firepower on its makers, the system set about destroying the world.

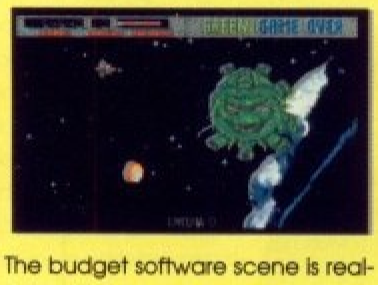
Decades later the survivors began planning the nemesis of their tormentor. Discovering Cybercon III buried deep in a mountain, a volunteer was dispatched to rid the world of the system. Designed by Ricardo Pinto, the man behind the highly acclaimed Carrier Command, Cybercon III features state of the art 3D graphics. It is due for release at the end of March. More details as they arrive.

LEMMINGS – PSYGNOSIS

Psygnosis are set to release one of the hottest new products this year. Lemmings is one of those games you just can't put down. The idea is simple – ensure the safe passage of your lemmings through numerous hazard-ridden levels.

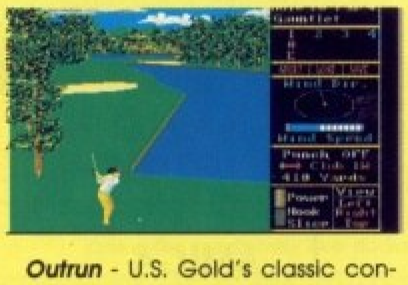
The game is mouse controlled and features sickly-sweet graphics. Using the different icon commands you can make your lemmings climb, dig, build and jump their way to safety. With an inimitable charm all its own, Lemmings looks set for the number one position.











KIXX BUDGET TITLES - U.S.GOLD

The budget software scene is really heating up and games giant U.S. Gold are about to release the first games on their Kixx label. All priced at £7.99, the first batch will include:

Road Blasters: In the not too distant future the world will be a place where the survival of the fittest rule will apply. With a cannon mounted on the front of your car you must run the gauntlet.

Thunderblade: Take to the skies in your attack chopper as you attempt to blow the enemy out of the air. Taken from the arcade smash, Thunderblade reached number one all over the world.

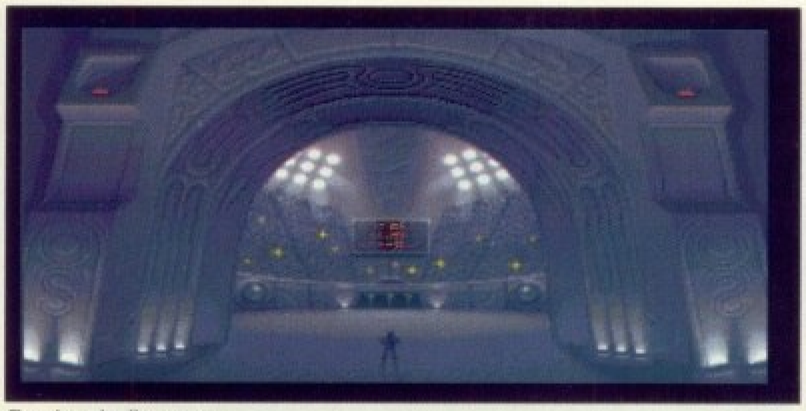
Blasteroids: An extension of the original Blasteroids, this game sees you and a friend simultaneously battling it out against the evil Mukor.

World Class Leaderboard: The ultimate golf game for £7.99 is now available for all to enjoy.

Gauntlet II: The arcade smash on your computer. Experience Gauntlet on your Amiga now!

Outrun - U.S. Gold's classic conversion of the award winning Sega coin-op. Experience the thrills and spills of racing at high speeds as you zoom along in your Ferrari Testarossa.

The next batch of Kixx titles will see the likes of Vigilante, Barbarian II, Axel's Magic Hammer, Moonwalker and Scramble Spirits.



Time to enter the arena



Not bad, but needs some work!

SPEEDBALL 2

Publisher: **Image Works**
Price: **£24.95**

In the year 2095 the sport of Speedball was driven underground. In a desperate attempt to regain public support, a Speedball council was set up.

New rules were brought in to make the game more appealing. Teams were renamed and stadia rebuilt. Speedball 2 was born!

Soon 16 teams were contesting the conveted Speedball 2 trophy. One of the new teams is Brutal Deluxe. You are their manager and as the 2105 season begin your hopes are riding high.

The pitch has changed, it's now 100 per cent larger! In addition to the usual goal-mouths, there are now four ways in which to accumulate points.

Scoring goals will earn your team ten points. Hitting one of the two bounce domes will earn you two points. Illuminating one of the stars on the side of the pitch will gain you an extra two points, while lighting all five will provide an additional bonus of ten. Taking out an opposing player will also score you ten points.

The game also features a score multiplier. Every time you throw the ball into the multiplier the points you score will be increased. Naturally, if the opposing side has control of the multiplier you can reduce his score by using it yourself.

Speedball 2 also sees the inclusion of pick-ups. Should one of your players collect a pick-up he'll gain a special ability. These range from freezing your opponent and reversing his joystick controls, to giving your team members maximum attributes and making your players immune to all tackles.

In addition to the pick-ups, players may also grab other goodies. Tokens will help you pay for extra training sessions or star players. Armour and weaponry will increase individual player's attributes.



More points nearer the title

There are two play modes in Speedball 2. The first, like the original Speedball, sees you controlling the team. The second puts you in a managerial role.

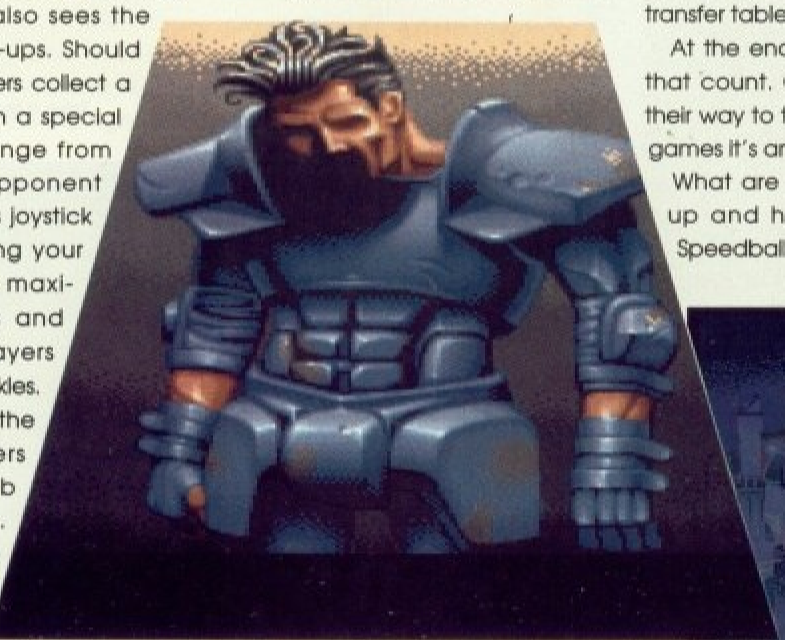
You train and coach the players while the computer controls them during the actual match time.

There are three competition modes – a knockout tournament, the league and the cup. A special practice mode lets you perfect special moves and tactics. However, your team won't find their way to the top easily.

As well as skill you'll also need cash. Using the tokens you can increase your players' attributes. In addition you can also peruse the transfer tables for prospects.

At the end of the day it's goals that count. Only the elite will win their way to the top, but in the cup games it's anyone's bet.

What are you waiting for? Pad up and head for the tunnel, Speedball 2 is here.



It's tough at the top

Gameplay

Although similar to its predecessor, Speedball 2 moves into a new dimension. The inclusion of a managerial section and the modified scoring system also help to create a world-class action game.

Sound

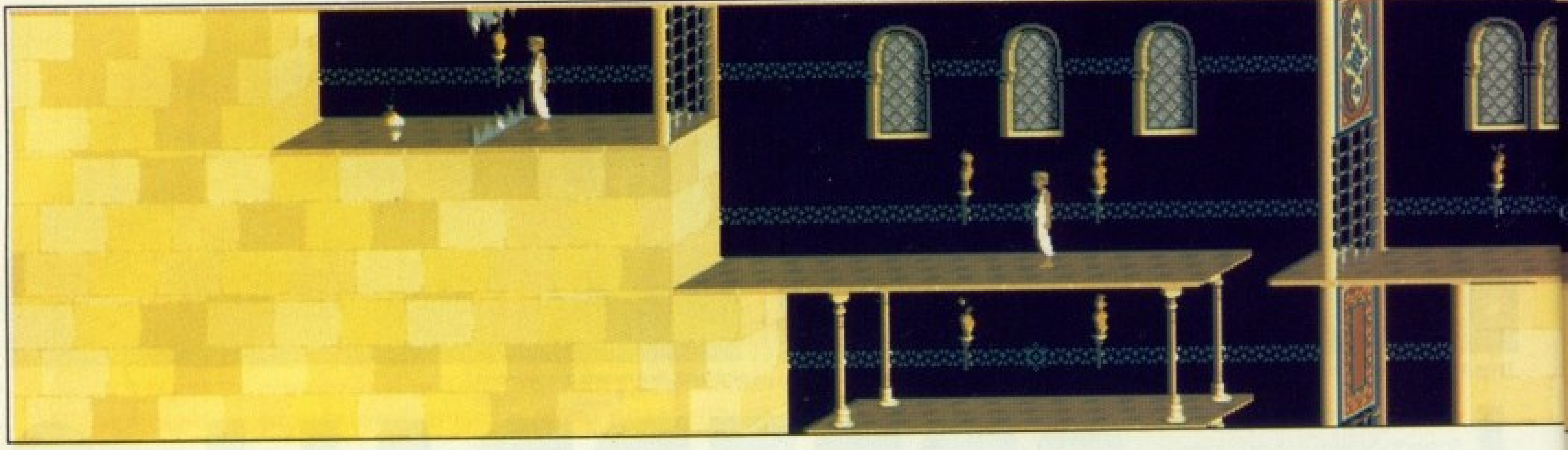
Nothing short of brilliant, the up-tempo rhythm provides real atmosphere. The sound of the ball crashing against the metal pitch is tuned to perfection, as are all the effects.

Graphics

The graphics are excellent and make for a show-piece game. The metallic graphics are nothing new, but combined with the speedy update and excellent animation it's clear the game is a real winner.

One of the spectacular new stadia





PRINCE

The name Jordan Mechner may not be one with which you are familiar. However, Jordan is no newcomer to the world of computer games. His first, the highly acclaimed Karateka, sold over 400,000 copies worldwide.

Prince of Persia follows the same style of gameplay as Jordan's first masterpiece and looks set to be every bit as popular.

The Sultan of Persia has decided to take a few months off while he searches for new lands to conquer. In his absence he has left the day to day running of the kingdom to his daughter, a beautiful princess.

Unbeknown to the Sultan one of his seemingly loyal subjects, the Grand Vizier Jaffer, has decided to seize power for himself.

Enticing the Princess to his tower, the Vizier delivers her an ultimatum – marry him or die. The poor girl doesn't really fancy either option, but whichever she chooses she must decide soon as Vizier Jaffer has given her only one hour to make up her mind.

Death is hardly a way out, but a sorrowful life with the Vizier isn't much better. If only her Prince Charming would bravely come to the rescue!

Unfortunately, the young lad who has confessed his undying love for the Princess has been incarcerated in the Vizier's dungeon. Stripped of all his possessions, can the youth find a sword and make his way to the top of the tower in under an hour?

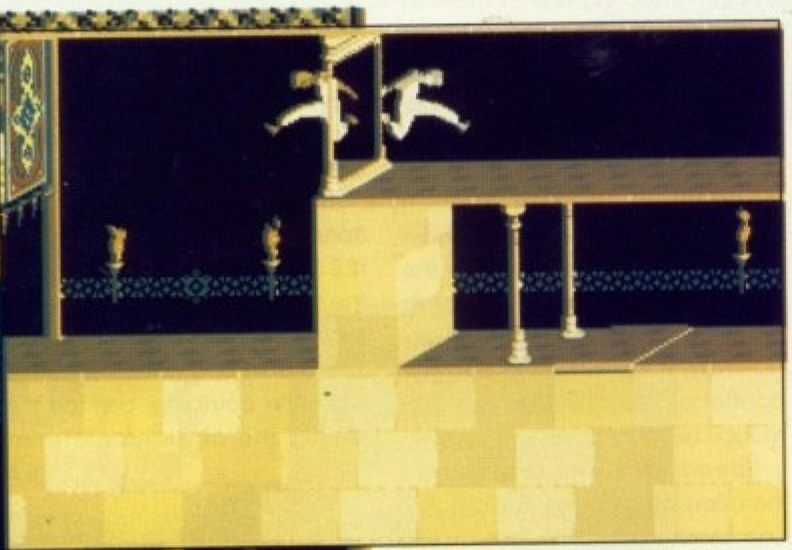
The game is split into three distinct sections – the dungeons, the palace and the tower.

Starting in the depths of the dungeon you must work your way to the tower and rescue the unfortunate lass.

Having escaped from your cell the first thing you need to do is find your sabre. Once collected, you'll be able to face the evil Vizier's guards in a fight to the death. You'll also discover your route is lit-



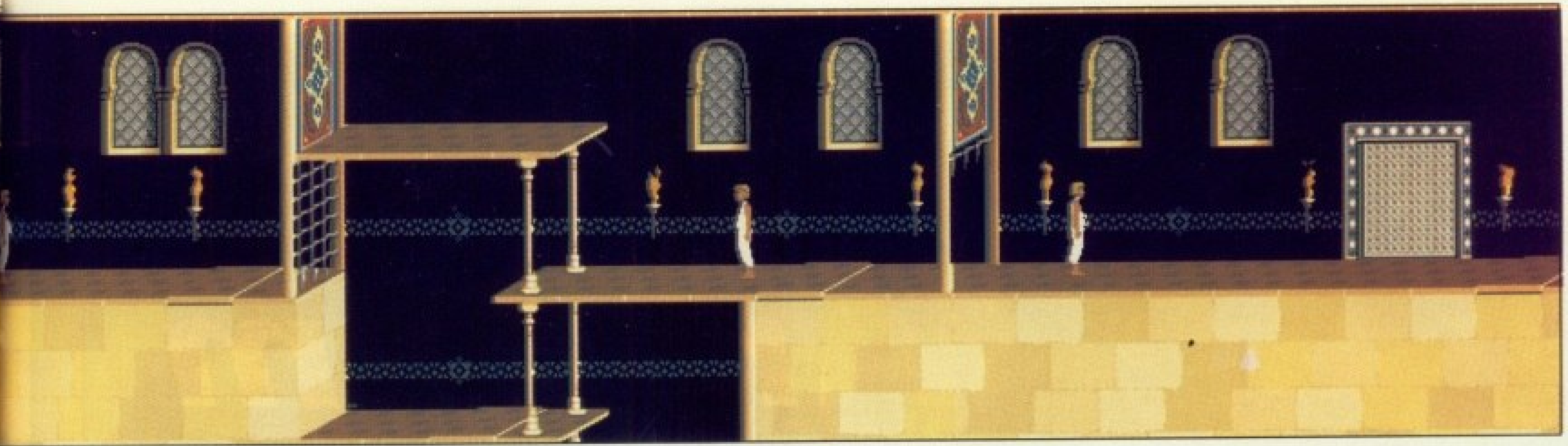
Your beloved awaits rescue as the sands of time trickle forever onward



Take a leap towards your goal



Another guard dispatched



E OF PERSIA

Publisher: **Domark/Broderbund**
Price: **£24.95**

tered with an assortment of fiendish contraptions designed to slow your progress.

Razor-sharp spikes rise from the ground to impale their next unsuspecting victim. Loose slabs crumble underfoot causing the unwary to fall to their death, and steel toothed gates open and close like a monstrous mouth.

Of course, the idea is that you avoid the traps at all costs. Contact with any of them will lose you valuable time and send you back to the start of the current level.

In addition to the traps that await you, you'll also come into contact with guards.

When meeting one of these burly fellows you'll automatically draw your sabre and a fight will ensue. The henchmen found in the dungeon are relatively easy to beat.

However, as you progress to the later levels the guards become more seasoned swordsmen and worthy opponents. Only when you have defeated them all will you be able to pass.

Naturally, you are likely to receive some wounds. A life-force indicator is located at the bottom of the screen and every time an injury is received a portion of it is depleted.

By collecting various potions you can revitalise yourself, but beware there are also less than beneficial elixirs to be found.

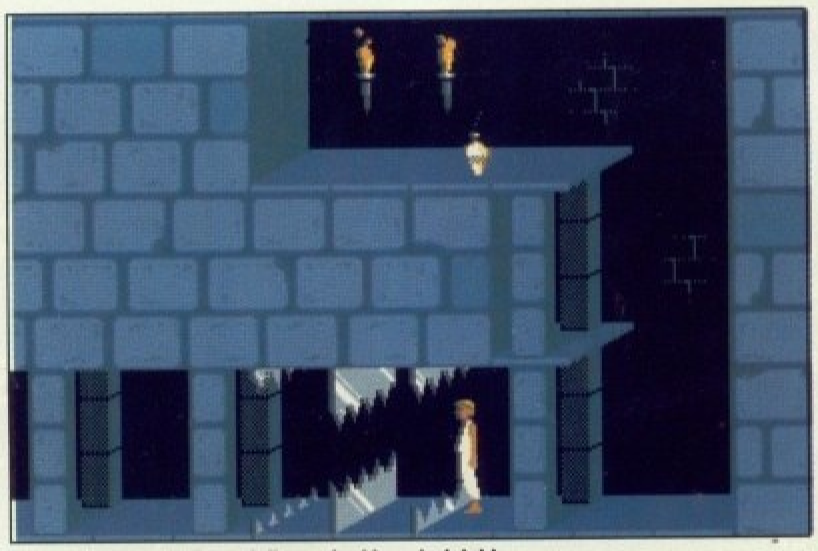
Some will indeed cure you of your wounds and may even increase your vitality, but others will contain a life-sapping poison. Potions are often tucked away out of sight, so only observant adventurers will find them.

Completing the game will take quite a time and novice players would soon lose interest if it weren't for the save game option. At any point after level two, a simple keystroke will automatically save your position to disk.

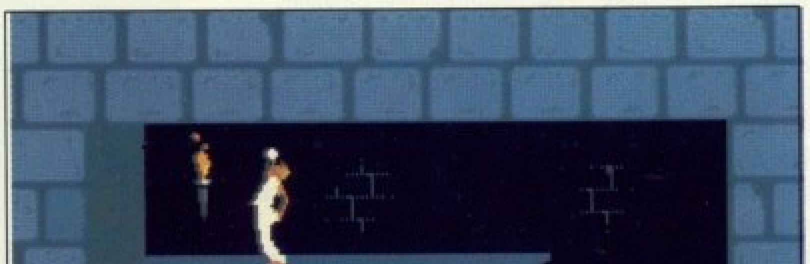
As if that isn't enough, players may also practice any of the first four levels.

The game is like a giant assault course with a few deadly traps added for good measure. Completing it will be a matter of trial and error.

All in all, Prince of Persia is a great little game that will undoubtedly attain cult status.



Time your passage through these steel jaws just right



Run before it crumbles beneath your feet

Graphics

The animation of the main character is excellent. The intrepid young adventurer moves so fluently you begin to believe he's real. It's a pity that the background graphics aren't so inspiring.

Sound

The various sound effects are activated when the main character performs different tasks. Each ditty has a truly Arabian theme tying-in nicely with the overall feel of the game.

Gameplay

This a game of exploration. Traps and guards abound in the passages and nimble joystick control is required at all times. With the inclusion of a save game facility Prince of Persia should appeal to gamesplayers everywhere.

ArgAsm

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Z-OUT

Publisher: **Rainbow Arts**
Price: **£24.95**

Having destroyed the satellite in orbit around Alpha Centauri, the X-Out pilots received a hero's welcome. However, the celebrations were to be short lived. The base's long-range radar scanners had picked up enemy transmissions from Alpha Centauri itself.

Facing an imminent enemy attack, the Federation has called upon you to fly a deadly mission right into the very heartlands of the alien planet. Code named Z-Out. Your flight will penetrate deep into the enemy defence system – there's no room for error, you must succeed.

Z-Out follows the time honoured tradition of shoot-'em-ups. Its forefather, X-Out, took it's inspiration from the classic coin-op R-Type and Z-Out adheres rigidly to this tried and tested formula.

There is, as you might expect, one major difference, the two-player option. Unlike other games of this ilk where players take turn at obliterating the alien slimeballs, Z-Out allows simultaneous monster mashing.

The game features six chaotic levels, peppered with crazy creatures, who are all out to get you. Each level also features two rather larger adversaries. These humungous beasts represent middle and end-of-level guardians and take a fair bit of blasting.

Naturally, it is possible to build up your firepower by collecting icons dropped by aliens. In the game's single player mode your first addition is a front pod.

This versatile unit acts both as a shield and far-ranging extension. Additional weapon systems may also be added to your arsenal, increasing your potential firepower to a formidable level. When the game is played in its team mode players won't get a pod. Instead, drones are collected. Each ship may have a maximum of two drones and when fully complemented, additional weapons are added.

In order to dispatch the larger aliens more quickly, you do possess a beam weapon. While holding the firebutton down your ship stores its energy and when you release it you'll see a huge fireball spew forth killing practically everything in its wake.

The game also lets you toggle between an ordinary fire mode and supercharged auto-fire. The latter option sees your ship letting fly with a constant stream of laser death.

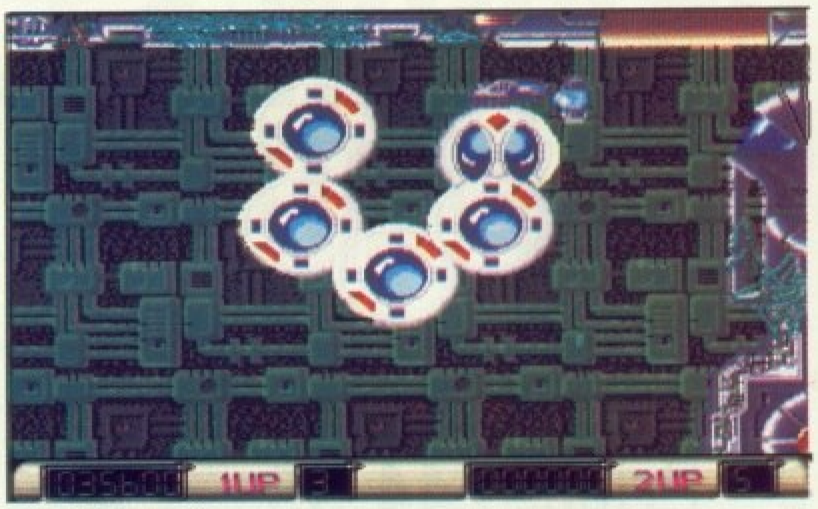
Players start with five lives, which are progressively lost when your ship comes into contact with any part of the scenery or enemy craft. Additional ones can be collected throughout the game for performing various manoeuvres.

The game is lost when all your ships are destroyed or won when you finally put paid to the last end-of-level guardian. Fat chance!

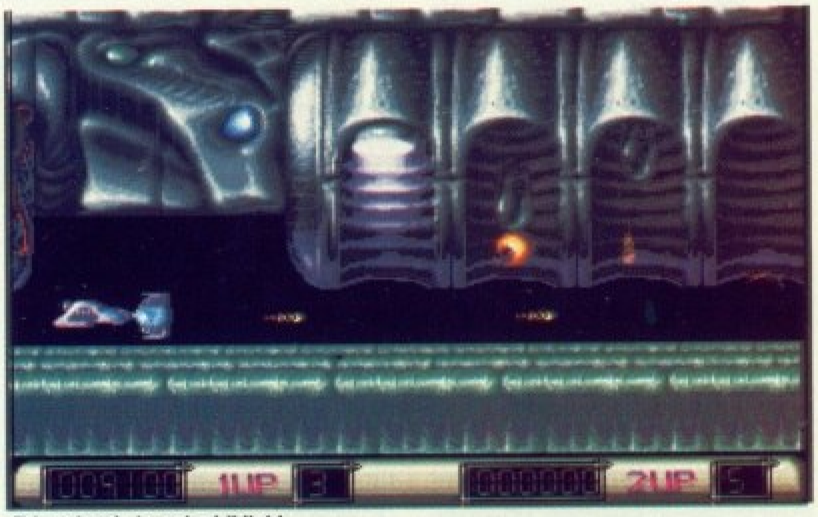




Diving down through the atmosphere the first objective is lined-up for destruction



Phew! That was close



Things begin to get a bit tight

Graphics

The game takes on the appearance of a highly polished arcade shoot-'em-up. With smooth, fast scrolling the action is both fast and furious – first class.

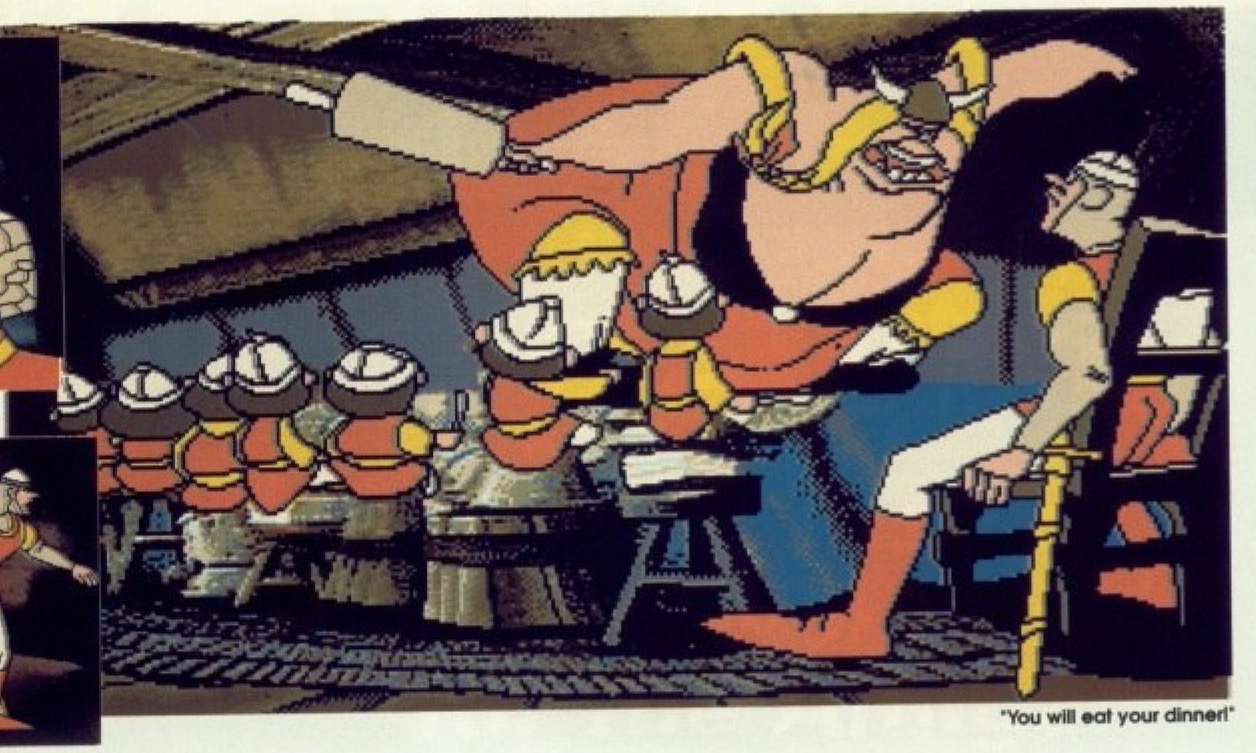
Sound

Z-Out features a pleasant enough theme tune with a combination of all the usual zaps and crashes you'd expect from a game of this kind.

Gameplay

The inclusion of the two-player mode makes Z-Out all the more exciting. The levels do get harder but players will learn enemy formations as they progress.


A petrified Dirk


"You will eat your dinner!"


Mind your back old son

DRAGON'S LAIR II: TIME WARP



Publisher: **Readysoft**
Price: **£44.99**

Don Bluth is the name behind countless classic feature length cartoons. Starting his career with Walt Disney studios, he has worked on films such as Oliver and Company, the Secret of N.I.M.H., and The Rescuers.

The early 1980s saw him move from Disney to set up his own company, Sullivan Bluth Interactive Media. While continuing to work on feature films, he turned his hand to video games.

At that time Taito's Space Invaders and Atari's Asteroids were state-of-the-art coin-ops. However, when Dragon's Lair was unleashed onto the unsuspecting public nobody could quite believe it.

This was the first game to call upon the latest laser disk technology. Because of the split second speed of the system, the games were basically interactive cartoons. Now we can experience Don Bluth's masterpieces on our home computers.

You assume the role of Dirk the Daring, a valiant knight who rescued the Princess Daphne from Singe the dragon.

Unfortunately an evil wizard by the name of Mordoc has also taken a shine to your beloved. In a puff of smoke he has whisked the beauty off to a wrinkle somewhere in time.

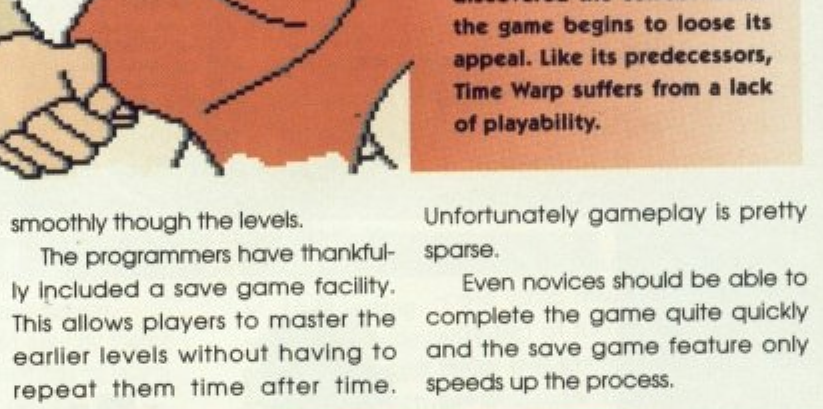
Naturally you're not too impressed by this state of affairs and decide to win back your bride. With the aid of an aging time machine, you must travel through time in search of the dreaded dimension.

You'll have to hurry, Mordoc only has to place the ring of death upon Daphne's finger and she'll be lost forever.

Time Warp is spread across six disks. The game features 46 scenes, each of which is superbly animated. Progress is made on a trial and error basis.

Each scene requires certain timed joystick movements. Perform the right ones and you will progress smoothly though the levels.

The programmers have thankfully included a save game facility. This allows players to master the earlier levels without having to repeat them time after time.


Get it right or Dirk is a snake snack

Unfortunately gameplay is pretty sparse.

Even novices should be able to complete the game quite quickly and the save game feature only speeds up the process.

Graphics

Simply stunning. Real cartoon quality on the Amy – exactly what we have come to expect from Don Bluth.

Sound

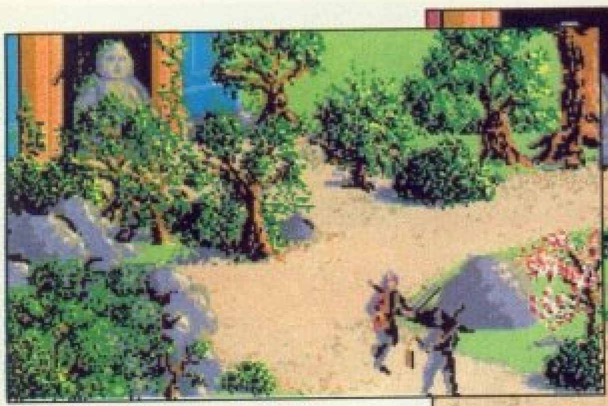
Paula the Amiga sound chip has been used to her full potential. What can we say other than brilliant?

Gameplay

Unfortunately, once you've discovered the correct moves the game begins to loose its appeal. Like its predecessors, Time Warp suffers from a lack of playability.

LAST NINJA REMIX

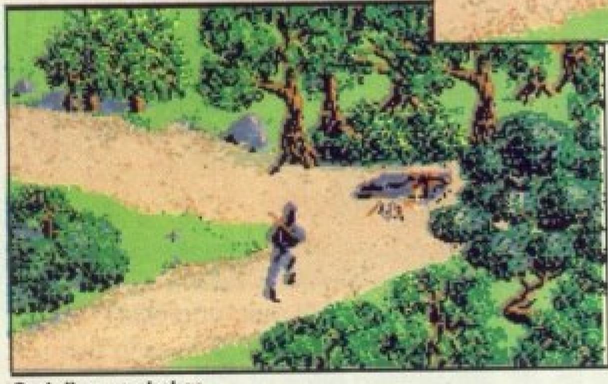
Publisher: **System 3** Price: **£24.99**



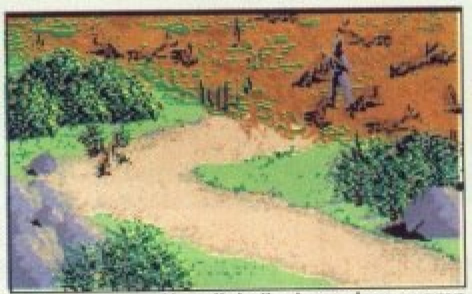
No turtles here!



Prayers won't help you



Grab the nunchakas



Negotiate the hazardous swamp

System 3 are probably best known for their ninja games, which have achieved cult status since they first appeared on eight-bit machines in the early 1980s. The team now present Ninja Remix, which they describe as the definitive beat-em-up.

Centuries ago the Brotherhood of the Ninja chose the Island of Lin Fen as their site for the shrine of the White Ninja, a place where the legendary Koga Scrolls could be carefully hidden from the rest of the world.

Taking the role of a young ninja acolyte, it is your solemn duty to repossess and return the scrolls, which have been captured by the mighty Shogun Kunitoki.

Deep in the centre of the island stands the palace of Lin Fen – another fortress, but crafted by the very hands of the Mystical Shadow Warriors.

Having been to the island once as a young acolyte, you have a vague memory of where certain paths and passages are located. That was over 10 years ago, and since then much has changed.

Finding your way around the levels you must pick up anything that you might find useful and locate the exit before you become just another memory.

The island has been divided into six different regions – the wastelands, the wilderness, palace gardens, dungeons, palace and the inner sanctum. Each has its own deadly dangers.

Fortunately, you have not been put on this island totally defenceless.

Initially armed with only what you have learned over years of intensive ninja training, you have to defeat any of the Shogun's minions in hand-to-hand combat.

Later on you will be able to find and use various weapons dropped or left carelessly lying around by the enemy.

Each weapon has its own advantages and disadvantages. The sword, for example, is extremely effective in long range combat, but falters heavily at close range, whereas the nunchukas are as effective at either range.

After learning the rudimentaries of combat you begin to explore the island and its inhabitants.

All of the levels contain logical puzzles and traps, most of which are solved with the help of objects or a little common sense.

This conversion by System 3 contains all of what Ninja II should have. It's a must for all you beat-em-up fans.



Eye, eye!

Graphics

The smooth animation makes the ninja look as though he is actuallywalking and not gliding across the floor. In the finest traditions of martial arts games a lot of attention has been paid to the colour and detail of the scenery. Screen update is extremely quick.

Sound

Featuring a truly oriental disco remix, the Ninja's soundtrack is nothing short of superb. Come to think of it, the sound effects are pretty hot too!

Gameplay

Ninja Remix is a beat-'em-up type adventure game. Players will spend much of their time figuring out what to do next while fending off assailants. With improved joystick controls, Ninja Remix is a competent all round arcade adventure.



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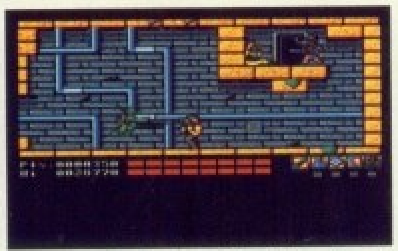
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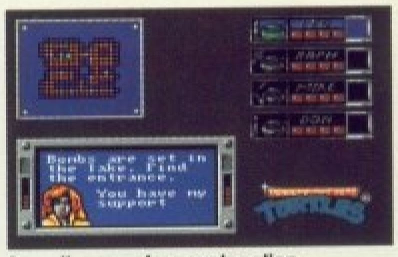
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Battle it out with a foot soldier



Face up to Beebop and Rocksteady



Scan the map for your location



Aarrgh, it's the Shredder!

TEENAGE MUTANT HERO TURTLES

Publisher: Image Works
Price: £24.99

Surely there can't be anyone who hasn't heard of the Teenage Mutant Hero Turtles? Love them or loathe them the Turtles are here to stay, at least until the next commercial craze hits the streets.

The Turtles began life as ordinary pets. One fateful day they were accidentally dropped down a sewer and instead of landing in the murky depths the pets found themselves swimming in a strange kind of radioactive ooze.

Contact with this substance caused them to mutate. They grew in size and even learned to talk!

A Ninjitsu master also came into contact with the gunk and changed into a human rat. He became known as Splinter and under his watchful eye the Turtles were transformed into deadly Ninja fighting machines.

Splinter, a purveyor of Italian art, named his students after classical painters. Thus were Leonardo, Raphael, Michelangelo and Donatello created.

April O'Neil, a news reporter with a network television company has been kidnapped by the vile and ruthless Shredder. As leader of the nasty underworld Foot Clan, Shredder's dastardly scheme is to brainwash the reporter into joining his gruesome gang.

Controlling the Turtles, you must wage war on Shredder and his foot soldiers in a frantic battle to rescue the lovely April.

Your adventure starts in the downtown streets of New York. When you search the city streets and sewers you'll come across all manner of creatures.

The end of each level is reached when you find April. However, she is always guarded by Rocksteady and Beebop, two of the Shredder's most trusted henchmen. As you battle it out with one of them, the other will take April off to another location.

The game continues in a similar fashion until you eventually track the gang down to their safehouse at the Technodrome. There you confront Shredder and capture his death-dealing Life Transformer Gun.

Throughout the game there are various icons to collect, each of which will assist you in your valiant cause.

Pieces of pizza replenish your life force, while invincibility and more powerful weapons can help you overcome the seemingly endless enemy onslaught.

The Teenage Mutant Hero Turtles is a competent beat-'em-up cum platform game. Needless to say, because of the Turtles' fame every kid in the land will want to play it.



Throw a spanner in the works

Graphics

Though not directly ported from the Nintendo console, the graphics look somewhat 8-bitesque and aren't what you'd normally expect from your Amiga.

Sound

While not being particularly impressive, the theme tune and spot effects do accompany the game adequately.

Gameplay

The game's difficulty level has been set just right. Newcomers will find the early levels challenging, but there will enough to keep seasoned gamers busy.



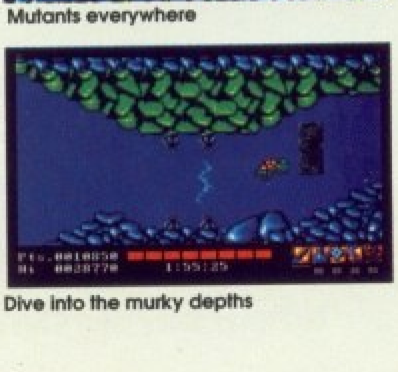
Mutants everywhere



Penetrate Shredder's lair



All aboard the party wagon



Dive into the murky depths

Hard times are upon us and money's too tight to mention. What's needed is a part-time job, and the best place to look is in the local newspaper. There are always plenty of jobs in the classifieds.

Those wacky wizards at Industrial Might and Logic, the world's leading toy company, need someone to work the night shift. Generous rewards are offered to successful applicants and what's more, no references are needed.

Two days later after a five minute interview you are given a short tour of the factory. The set up is one huge machine called Bingham's Environmentally Active Solution for Toys – B.E.A.S.T. for short.

The factory owner, Glenn Bingham, invented the giant structure from all manner of household waste products.

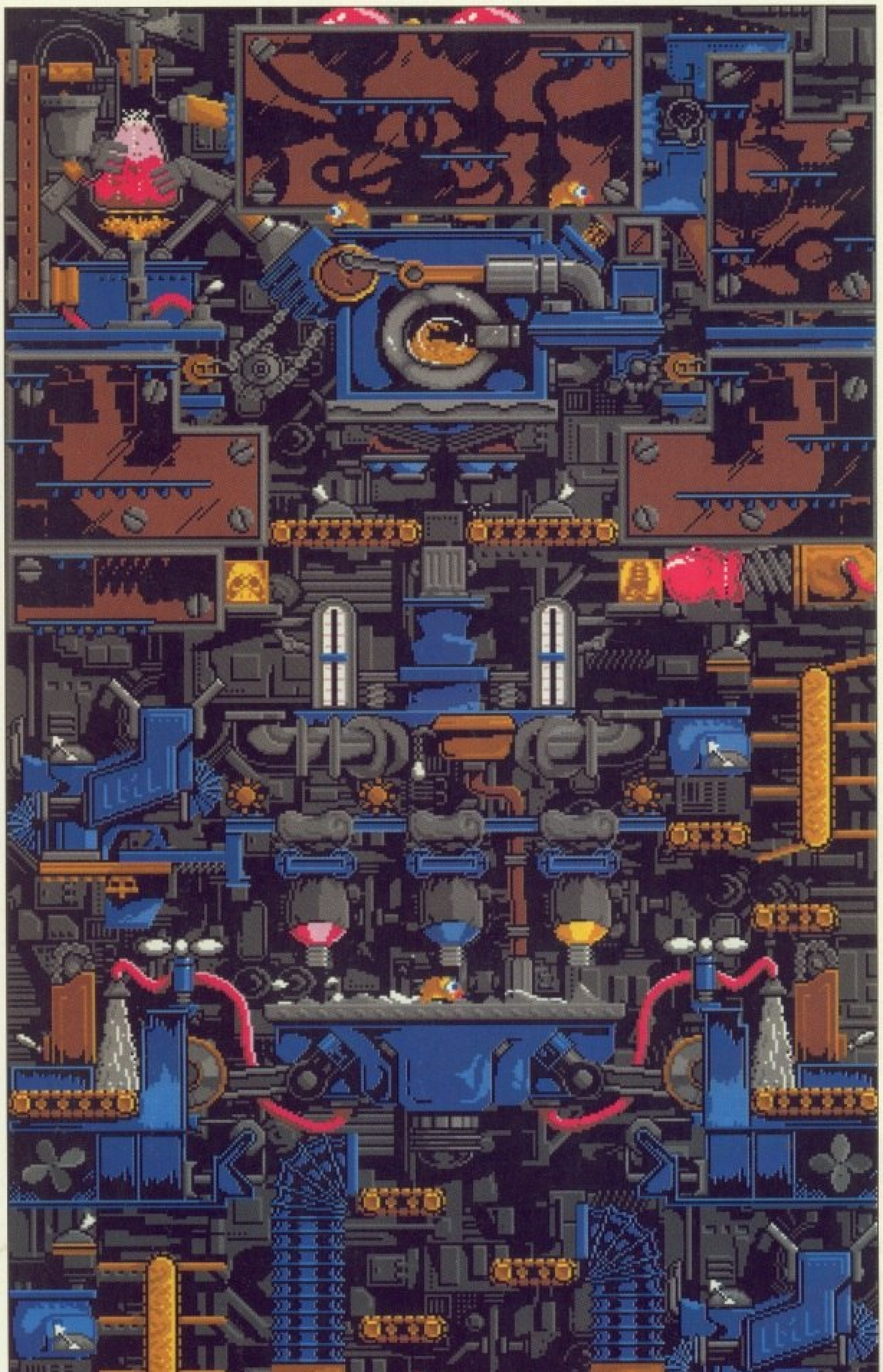
Beginning your shift at 9pm, you must first make your way to the foreman's office. The cigar-smoking boss will give you your quota for the night.

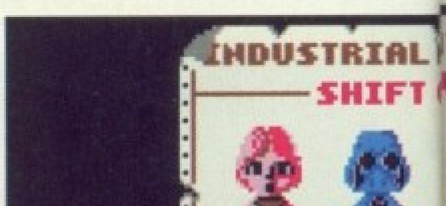
To start with this is a small number of items. Your first shift merely requires the production of five Storm Trooper Toddlers.

In addition to your quota information, you'll also be given a shift code, which will allow you to enter that level at the beginning.

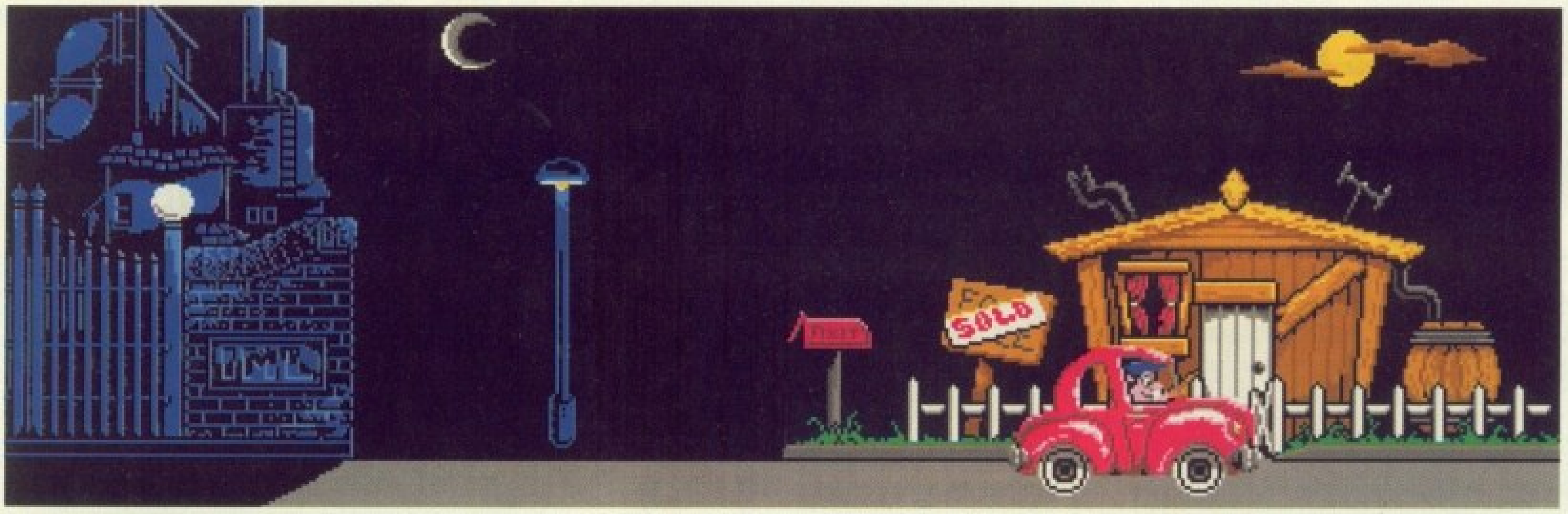
When you pass into the factory your first task will be to charge up the generator. To do this you have to jump aboard the bicycle and peddle like crazy. Two light bulbs will flash as the generator charges.

Once the bulbs are flashing wildly you should ignite the furnace. You'll have to delve deep inside your toolbox and find a match to light the burners. Having charged the battery and lit the burners you


The BEAST in all its glory



Mr. Fixit gets his orders



His quota filled, Mr. Fixit wends his weary way home

Publisher: **Lucasfilm Games** Price: **£24.95**

NIGHT SHIFT

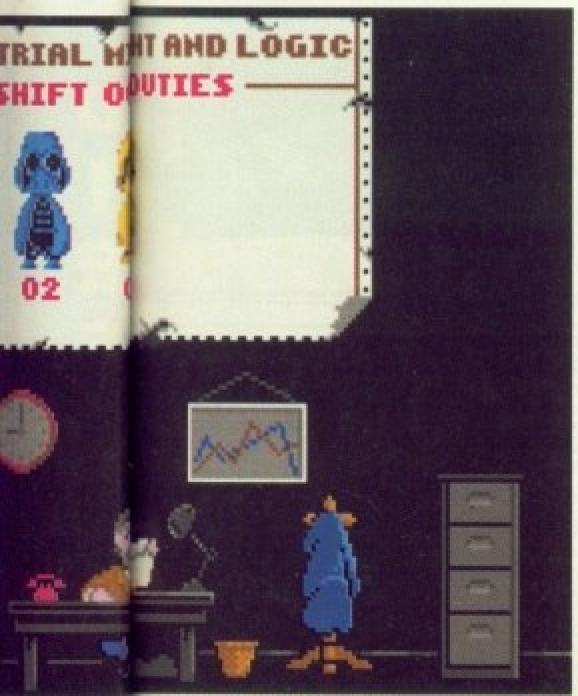
should now make your way to the top of the BEAST.

On the way it's advisable to take a quick glance at the conveyor belts to ensure that they're all running in the right direction – if they're not, the flick of a switch will rectify the problem.

Situated on the top of the BEAST is the solidifier supplier production unit, a specialised piece of equipment adapted from an old university chemistry lab. After kicking the plug into the socket you should light the Bunsen burner and set it to the correct heat setting.

Once you have completed the process the unit will produce a liquid solidifying solution that will run into the resin maker. An eye should be kept on the unit in case the liquid boils over. If this occurs, the gas must be re-adjusted before production can continue.

The plastic made by the resin maker will fall into the moulds. The newly formed pieces of plastic will then find their way to the paint shop. In earlier levels you won't have to operate this unit. However, on later stages you'll not only have to paint the pieces, you'll also have to mix the paint and flush out the system.



The painted units will then travel along an assortment of conveyor belts until they enter the bonding unit. Once inside, the machine joins the two portions of plastic together.

This often has catastrophic effects as the second piece to enter the bonding unit will be joined on top of the first. It's not uncommon to find dolls with two heads, four legs or with their legs on their heads!

Once bonded, the dolls will travel down to quality control. Ones completely of one colour with heads on top of bodies will be sent for packing. Rejects are put to one side for the foreman to see.

When the shift is over the candle at the bottom of the screen will burn out and you'll be summoned to the office. Bonuses will be awarded for complete dolls and deductions made for any rejects.

If you made your quota you'll be given a fresh order and a new shift code. If you fail, you're fired!



Our hero ponders over his next move

Graphics

Sporting cute cartoon style characters, Night Shift looks radically different to anything else produced by Lucasfilm Games. The animations seem to have a charm all of their own.

Sound

The game's spot effects could have been recorded in a factory. Combined with the jolly theme music playing in the background, the overall sound to Night Shift accompanies the action perfectly.

Gameplay

Initially confusing, Night Shift is a wacky platform game that'll keep you coming back for more. As you progress, the levels become harder and new components are introduced ensuring that the action never grows stale.

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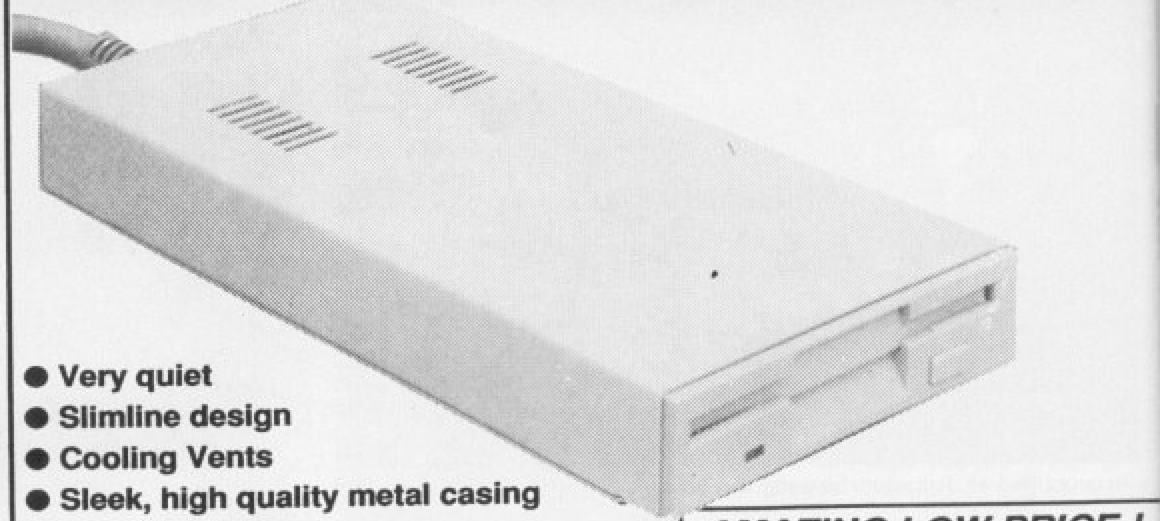
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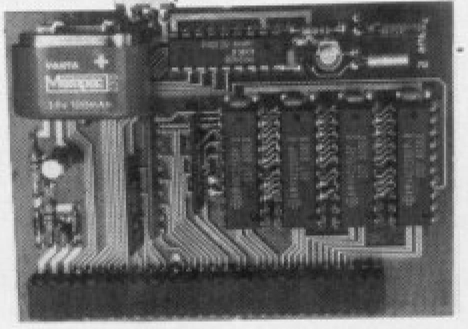


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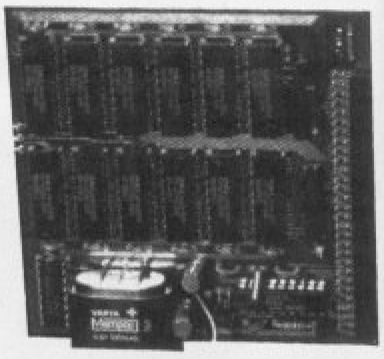
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The only full-featured animation/paint program to utilise state-of the art techniques that are characteristic of Disney-style animation. Special features let you superimpose your animations on background pictures. Sample animations, plus sound effect library included in the package from which you can add to your creation. Supports IFF, Anim graphic formats and SONIX, SMUS and INSTR sound formats. Great price!

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ACCESSORIES

VIDI-AMIGA

VIDI-AMIGA

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- Have perfect freeze frame from any video, in up to 16 shades
- Grab real time 3-D images
- Store & replay action sequences
- Realise Desktop Video
- and much, much more

VIDI-Amiga is compatible with all video standards, eg.colour, B/W, VHS, Beta, PAL, NTSC etc.

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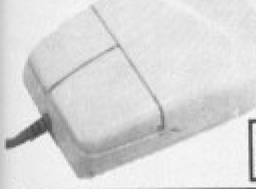
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Automatically separates Red, Green and Blue colour signal components from video recorder or camera source, enabling the user to easily produce colour pictures when used with VIDI.

VIDI Amiga : £ 89.00
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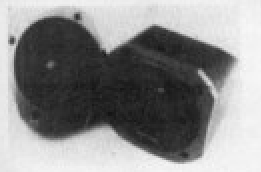


Outstanding quality, excellent value for money - this package includes a 100-400dpi scanner with dither options, plus the amazingly powerful TOUCH-UP software package which drives the scanner directly. Scanner includes viewing window & backlight for accurate scans every time. Scan either line-art or grey images up to 400dpi. Many image enhancement & special effects available from within Touch-Up. A sensible investment for Desktop Publishing work.

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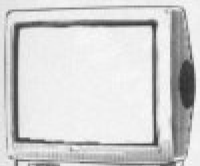
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Top-selling A500 package includes 'Night Breed', 'The Beast 2', 'Back to the Future 2', 'Days of Thunder', 'Deluxe Paint II' and TV modulator.

A500 SCREEN GEMS PACKAGE .... £ 379.00

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Includes A501 512K RAM Upgrade, TV Modulator, 8 software Titles, 10 Disks, Mouse Mat, Video Tape and more ....

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Includes A1500 computer (1Mb RAM, 2 x 3½" Drives, 8 expansion slots), Commodore Hi-Resolution Colour Monitor, plus Software including: 'Deluxe Paint III', 'Battle Chess', 'Sim City' and 'The Works' (business software).

AMIGA 1500 STARTER PACKAGE .... £ 999.00

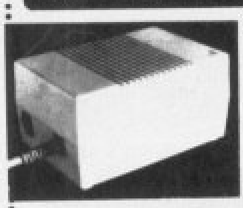
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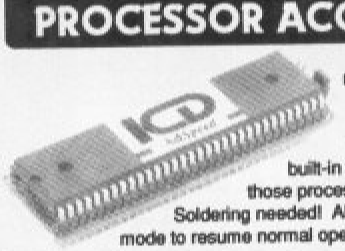
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S-S-S-SAMPLE THIS !

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- Full control over printer from easy to use front-panel
- Fast set up, with Parallel and Serial interfaces as standard
- Backed by 2 Year Manufacturers Warranty
- Supplied complete with parallel connection cable

Citizen ProDOT 24 Normal RRP: £ 746.35 inc.VAT

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All STAR Printers include 12 months On-Site Maintenance

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Star LC 24-10 24-Pin, 4 fonts, 180/60cps .... £ 215.00
Star LC 24-200 24-Pin, 5 fonts, 200/67cps....... £ 249.00
Star LC 24-200C 7 colour version of above ..... £ 289.00

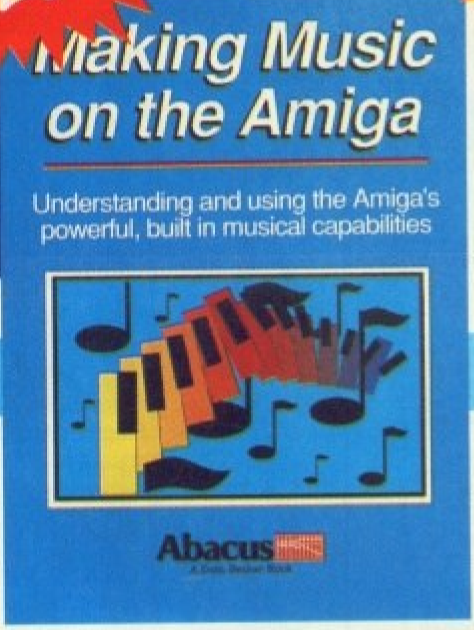
HP Deskjet 500 3 pages/minute, 300 DPI inkjet printer .. £ 459.00
Olivetti DM109 200/30 cps 9-pin, good all-rounder .... £ 159.00
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Deluxe Video 3 .... £ 59.95
Music-X 1.1 .... £ 110.00
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HiSoft Lattice C .... £ 179.00
GFA BASIC V3 .... £ 39.95
GFA BASIC Compiler ... £ 34.95
Devpac 2.15 .... £ 44.95
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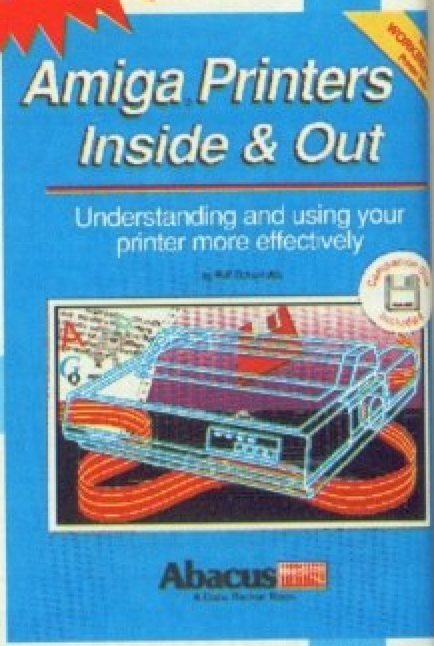
New Titles for Amiga

NEW!

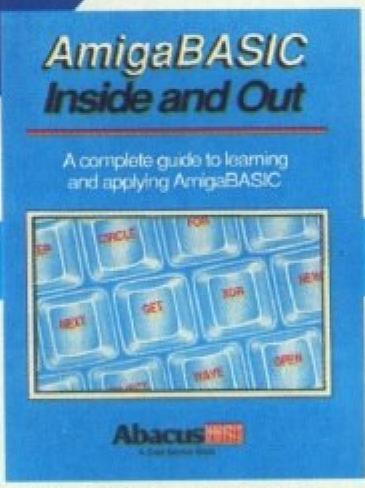


Making Music on the Amiga – Shows the Amiga user how to take advantage of the musical capabilities and making your own MIDI interface. Includes disk with music and utilities.

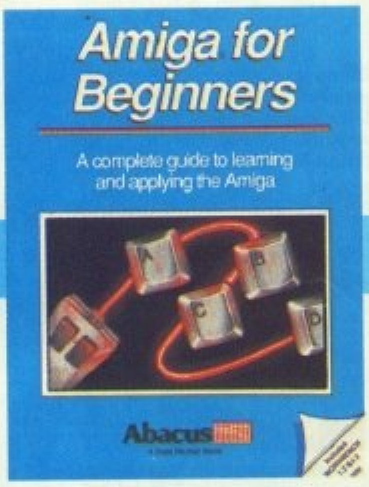
NEW!



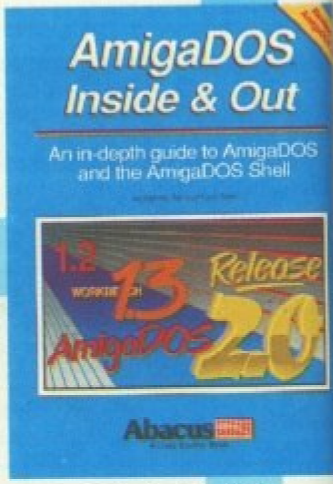
Amiga Printers: Inside & Out – Learn AmigaDOS commands for simple printer control, printing tips and tricks fro the experts. Includes diskette with essen printer utilities.



AmigaBASIC – Inside & Out – is THE definitive step-by-step guide to programming the Amiga in BASIC. Each BASIC command is fully described and detailed. Some of the topics covered include files and file handling, using pull-down menus, sensing the mouse, handling windows, drawing charts and using the speech commands. Techniques for advanced BASIC programmers.
554pp

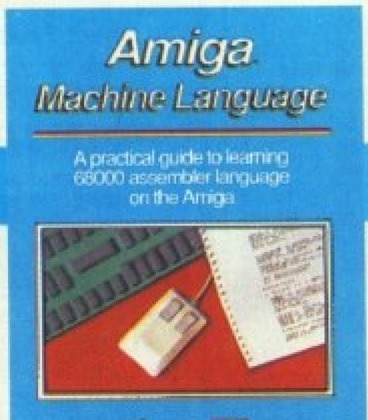


Amiga for Beginners – learn the essentials of the Amiga easily and quickly from opening the box to your first application.
182 pp

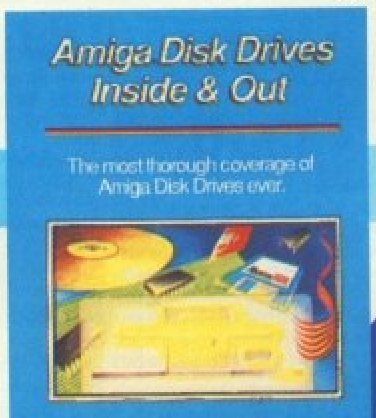


AmigaDOS – Inside & Out – covers AmigaDOS in depth so that you can use many of its advanced capabilities for practica applications. Includes a complete reference section detailing all of the DOS commands, information on using the DOS editors – ED and EDIT, creating and using script files and taking advantage of the Amiga's multitasking features.
280pp

Amiga Machine Language – is a thorough introduction to 68000 assembler programming and is a practical guide for learning to program the Amiga in ultra-fast machine language. Covers 68000 microprocessor architecture and addressing modes, making speech and sound from machine language and more. This book is also a perfect companion to our AssemPro machine language development software.
264pp



Amiga Disk Drives – Inside & Out – a practical guide to disk drive operations. Information about data security, disk drive speedup routines, disk copy protection, boot blocks and technical aspects.
360pp



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In pursuit of excellence

Paul Austin continues his search for the perfect word processor

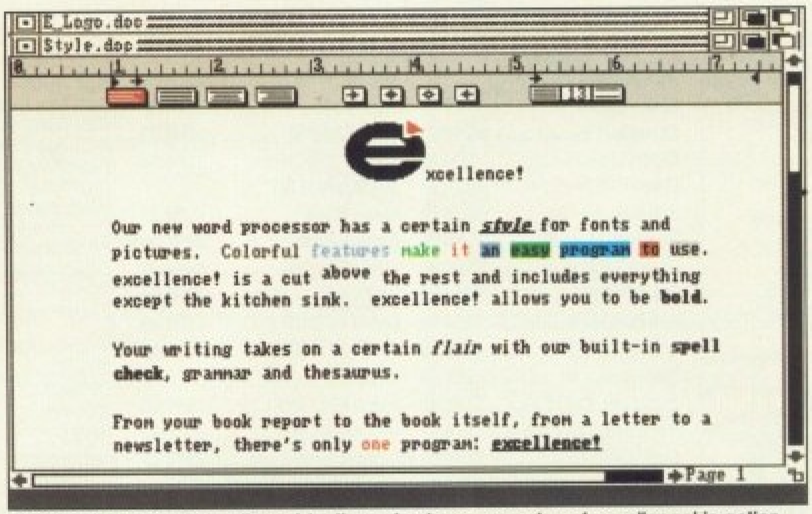
A sure sign of a serious machine is its processing power. This is especially so when it comes to word processing.

Unfortunately software houses seem to have a very conservative approach to the writing of word processors. Usually they take the easy way out, by converting an established version written for an older machine.

Heaven forbid that anyone might attempt to alter, or even worse, improve on a member of the old school. As a result the same old faces pop up on almost every machine.

Pro Page, WordPerfect, Protext are just some of the familiar names to have made the inevitable trek from the PC. Some with a great deal more success than others, in particular Protext, which has done very nicely in the Amiga market.

The trouble with the Amiga is that it's simply light years ahead of the PC, and as a result the consequent conversions miss the amazing abilities the Amiga has to offer.



Different fonts, graphics, all combinations of colour, a sure sign of excellence! in action

Enter excellence!

The only word processor written by Amigans for the Amiga is excellence!. As a result it makes full use of all the machine's potential – well almost all.

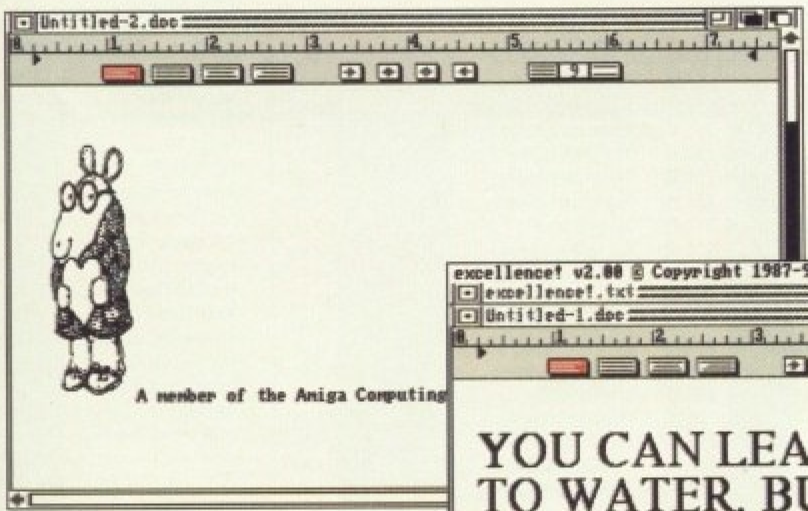
Available since 1987, excellence! might well have been an instant success, but in the early days it made a spirited attempt to price itself right out of the market with a whopping £200 price tag. Fortunately the suppliers have now seen the light and the latest version is available for a slightly more reasonable figure of £160.

The manual is first class – well written and user-friendly. Some of the expense has definitely been saved in packaging the product as it has to be put together by its new owner, who must clip numerous leaves into a cute little folder.

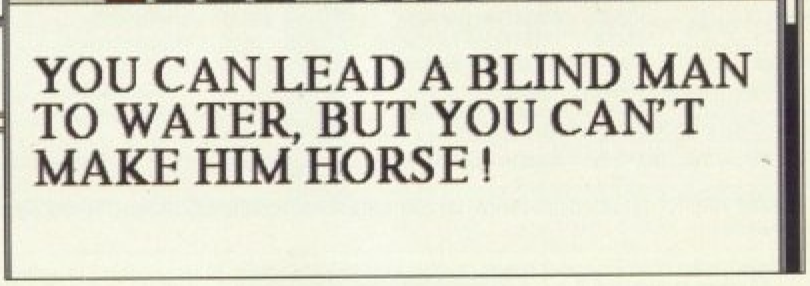
Obviously an attempt by the suppliers to put you in a creative mood.

Once the manual is assembled, configuration of the system is very simple. So too is installation on to a hard drive. The whole process is a straightforward menu driven operation.

To say excellence! is merely a word processor would hardly be correct or fair. It could more accurately be called a writer's work station, made up of three distinct utilities rolled into one unit.



Please write in with your suggestions as to the ID of our graphic hero



Large, fast, fancy fonts

The wordsmith

As a standard word processor it has all the available functions most people require, and probably a good few you won't.

It's possible to open numerous documents simultaneously, which will neatly stack one behind the next, each becoming active as it is drawn to the front in the usual Amiga fashion.

The only strange aspect of the program is its lack of multi-tasking.

For example if you wished to spell-check on one document while working on another the only possible way to do it would be to load the program twice, and run the documents individually on each. This is by no means an ideal situation, and due to the heavy memory requirements would be well beyond the abilities of most Amiga owners.

The absence of multi-tasking is no doubt partly due to the designers' wish to keep things as fast as possible. But I do feel some people who may not feel the need for speed would appreciate the program a little more if one of the Amiga's most famous attributes had been exploited to the full.

The front end is well put together, reminiscent of a Mac in many respects. The average Amiga owner should feel quite at home with the familiar pull down menus and Workbench gadgets.

All the features you would expect make a welcome appearance, with some added attractions not found in some of the opposition.

One of my favourites has to be the page preview option. This allows you to see your masterpiece as it will appear on paper, obviously in a somewhat shrunken form, but still useful in layout and design.

Instant page setup is another

body text and headers/footers easily and without the need to load up complex configuration files.

Print merging and insertion of text are all catered for along with various load/save options and preferences available direct from the pull downs.

Cut and paste has a full range of options with a wide variety of insertion options, such as pages, dates, times, headers and footers, even offering an option to insert literals to the text.

Another pleasant addition is a useful sort feature which will arrange both words and numbers in ascending or descending order. By simply marking out the desired section and clicking the appropriate pull down, you are sorted.

Moving around

All the text handling functions are a combination of mouse, pull down and cursor position. If you want to move or copy a particular paragraph to the next, or insert some text from a document on disk, simply place the cursor, select the option and hey presto, instant paste.

All margins and markers can be displayed if required, along with the usual selection of bold, italic, underline, superscript or subscript printing, available with various foreground and background text colours.

If, for example, you need to swap every occurrence of 'format' and alter it to 'trash' a find and replace option is available to leap into action and dive around the document frantically trashing one for the other.

Some rather advanced functions are also waiting in the wings. There are functions to generate indexes or a table of contents and a glossary featuring full macro key support. Last but not least there's a detailed summary of document information – word count, page count and so on.

That's about it for the word crunching section, my only disappointment is the program's inability to turn off the page option. As an electronic scribe I have little use for paper, but considering it makes no real difference to the finished product, it is merely a personal point.

If you deal heavily in figures you may miss overtype, a common feature on most word processors but for some reason missing in this one.

Among its many talents it boasts a spell-checker, thesaurus and grammar checker, each of which have their good points as well as the occasional bad.

In the case of the spell checker the main problem is the lack of an English education. The program is American born and bred and as a result spells certain words with an American accent – color, realize, organize to name but a few.

It is a good idea to keep a close eye on the options that the checker offers you, because an alternative to what it considers to be spelt incorrectly can be just as bad as the original.

However, it isn't all doom and gloom in the spell checking department. The check as you type is a particularly useful option, as is a learn feature which remembers your personal preferences and then refrains from belching up the said word time and again.

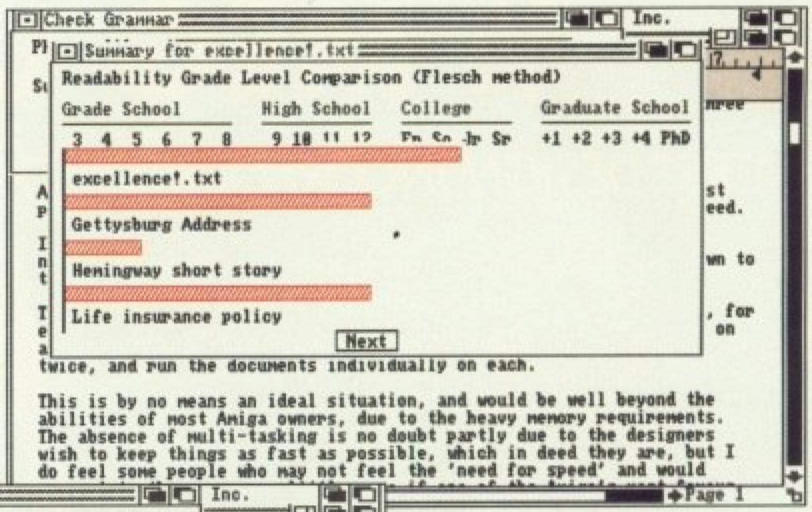
The pattern recognition utility isn't great. This occasionally provides alternatives to a mispelt word that aren't even remotely similar to the word required. Even so, nine times out of ten it will guess correctly thanks to its 140,000 word dictionary.

Massive thesaurus

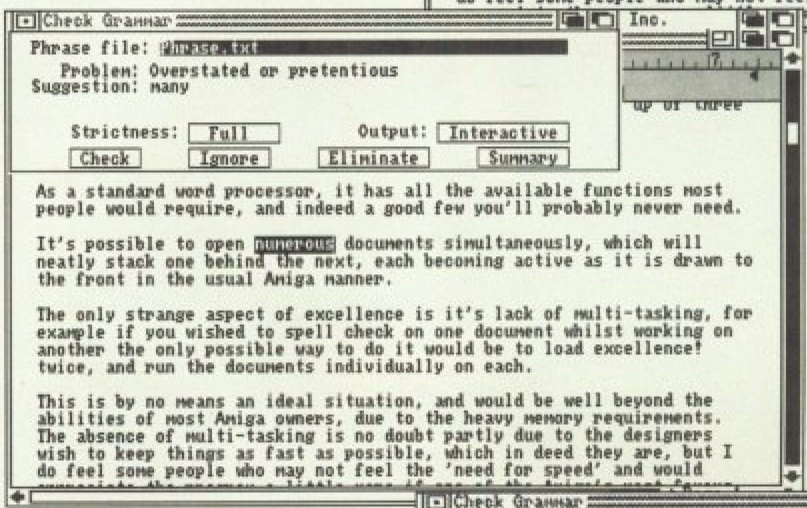
The thesaurus is one of my favourite features. It's very impressive, as it should be considering an almost unbelievable 1.4 million word vocabulary. The range of alternatives provided is excellent.

It gives both antonym and synonym alternatives to the word in question plus various definitions of the original and resultant choices. This is extremely comprehensive and particularly useful.

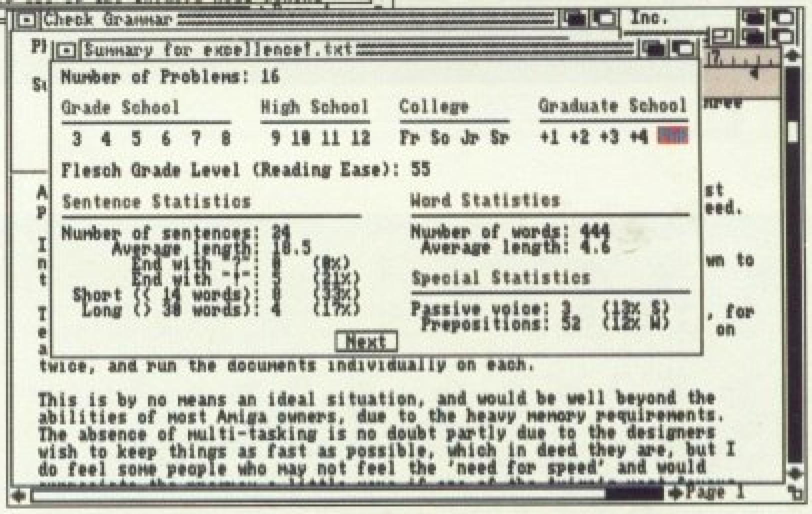
The thesaurus can even be used as an alternative spell-checker.



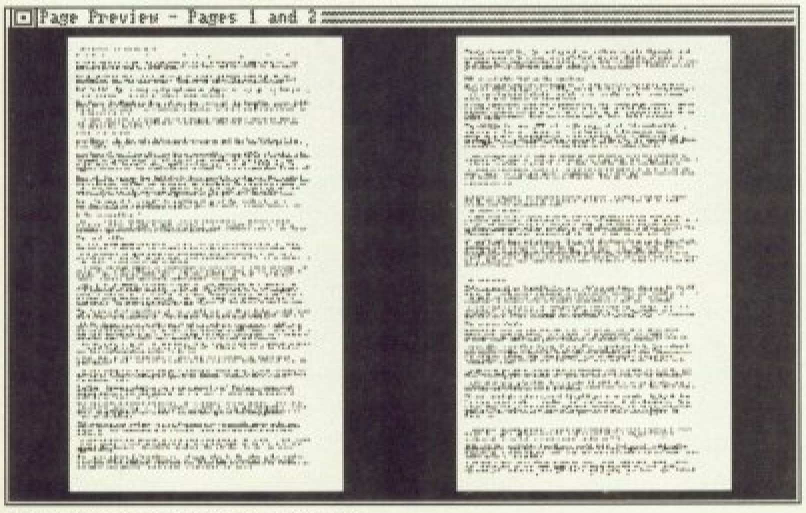
An amazing score and I didn't touch it up in Dpaint, honest



Have you got the stomach for the summary?



The final slap in the face for the reckless writer



How it will appear on the printed page

Simply type in a synonym of a word you can spell and up comes the alternative you couldn't even begin to guess – wonderful! It doesn't stop at synonyms – you can also select antonyms or both at the same time.

The grammer checker is not for the faint of heart or those of us with sensitive literary egos. It is cruel, heartless and takes no prisoners. If you're not the most even tempered of people the grammar checker could well cost you a fortune in aggravated computer assault.

According to excellence! I have a tendency to be overstated and pretentious – you probably already worked that one out for yourselves.

Others include overuse of a particular word, suggestions for generic rather than trade names, and the occasional statement that elements of your life's work are, and I quote "hackneyed, cliché or trite".

Ego cruncher

All of these and much more are waiting to give your ego a good slap in the face, leaving you in tears and your so-called friends in stitches.

As if that wasn't humiliation enough, it will then go on to give you a relative readability score against an insurance document, the Gettysburg Address and a Hemingway short story.

If you can stand the embarrassment it will go on to completely break down your work and compare it against the others. Displaying all four pieces in a bar chart format, it scrutinises such things as the proportion of large words, the number of sentences, relative sentence length and so on.

The final nail in the coffin is the chance to find out how your work compares with ability levels right up to PhD – for my performance look at one of the screenshots.

I strongly advise anyone to take its observations with a pinch of salt as it is very literal in its assumptions. Nevertheless as an aid to improving your style and grammar the checker is a great help.

Still speedy

With all the available functions, you would think that speed would suffer considerably. Not so, the retrieval rate is very impressive. Granted most of my experience is with a hard drive, but even floppy access times are still quite respectable.

excellence! tries to walk, talk, chew gum, sing, dance and juggle all at the same time and somehow manages it. The three elements of word processor, DTP tool, and teacher are impressive when judged alone, but combined as part of the same package they form an almost unbeatable combination, that truly complements a great machine.

In the past I was a devout Protext fan, and as a result did my best to find a chink in the armour of excellence!. I couldn't manage it. I still feel that Protext may have the edge on pure word crunching power, but for all round ability excellence! is amazing, and for those in the market for flexibility it's got to be the one.

excellence! – requires 1Mb
Price – £160
Track Computer Systems
12 Sadler Gate
Derby
DE1 3NF
Tel 0332 41817

DTP or not DTP, that is the question

This program is much more than it may first appear. It's possible to have up to 250 separate fonts in a single document, as well as imported IFF graphics of your choice, plus any combination of text and background colour, and do it all in newspaper style column printing with automatic hyphenation.

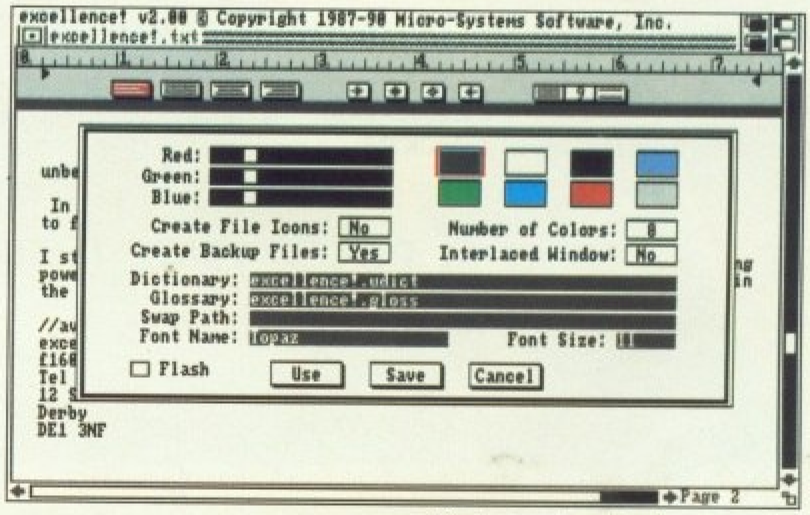
Most of these features are well beyond the abilities of the average word processor. The amazing flexibility of the software is due to the ridged adhesion to the rules of AmigaDOS, which the programmers applied while creating the program.

The ability to import IFF's is a direct result of this laudable action. All that needs to be done is load any IFF image into Dpaint and save it out as a brush. It can then be loaded and incorporated into a document.

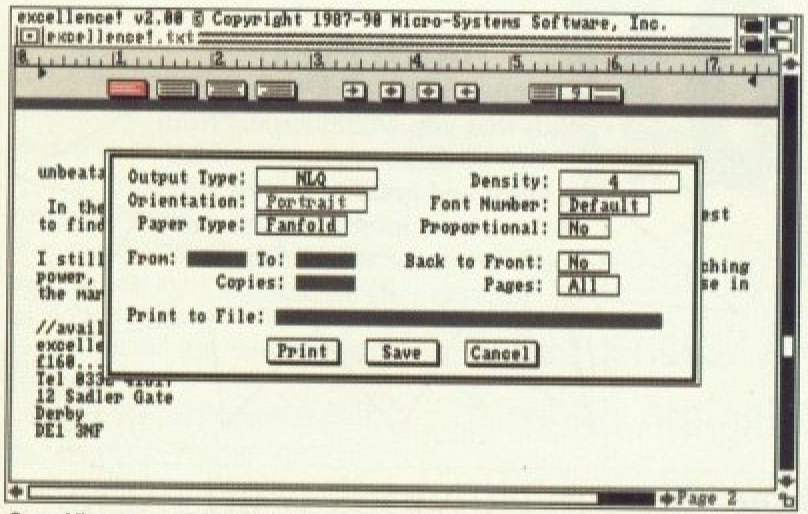
All of this can be produced in a wonderfully clear postscript file, although be warned that the bitmapped funky fonts can take quite a while to print. But if you're willing to wait it can all be produced in up to eight colours.

Those among us who wish to transfer information from one machine to another will want nothing to do with IFFs as they are the kiss of death to lesser machines and certain familiar Amiga applications.

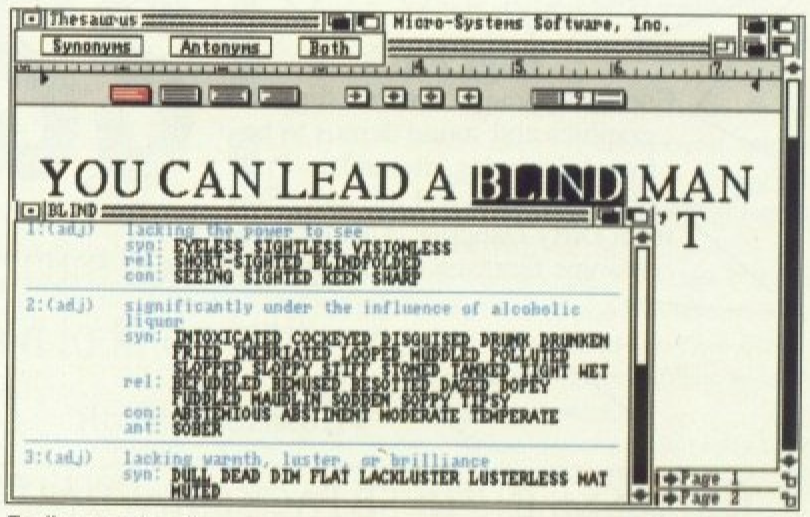
If you're transferring files via phone or floppy from one machine to the next, ASCII is what you want. Assemblers and compilers eat nothing else and luckily enough there's an option for this as well.



Word processing with colours – amazing



One of the many printer configurations available



The thesaurus in action

PART 1

If you have an Amiga 500 and an extra drive or half meg upgrade, or even both, you're the sort of person who wants to do something with the Amy other than play games. You may be one of the thousands of new owners who have quickly tired of the titles supplied with the machine.

If they told you that the Amiga was the most powerful home computer available and now you're wondering just what it can do, then this guide to finding your way around the Amiga operating system was written specifically with you in mind.

What we want to do over the next few months is to illuminate the parts of AmigaDOS which the manuals supplied with the machine leave extremely dimly lit.

I don't intend to re-hash the Amiga user's manual and I will ignore the most common AmigaDOS commands, as everyone who has flipped through the book will know how to use them. You should be familiar with DIR, RENAME, FORMAT, and other such basic functions of CLI.

Again, I'm assuming that most people who want to use AmigaDOS will also want to buy a second drive and expand RAM to a full megabyte, if they haven't already done so.

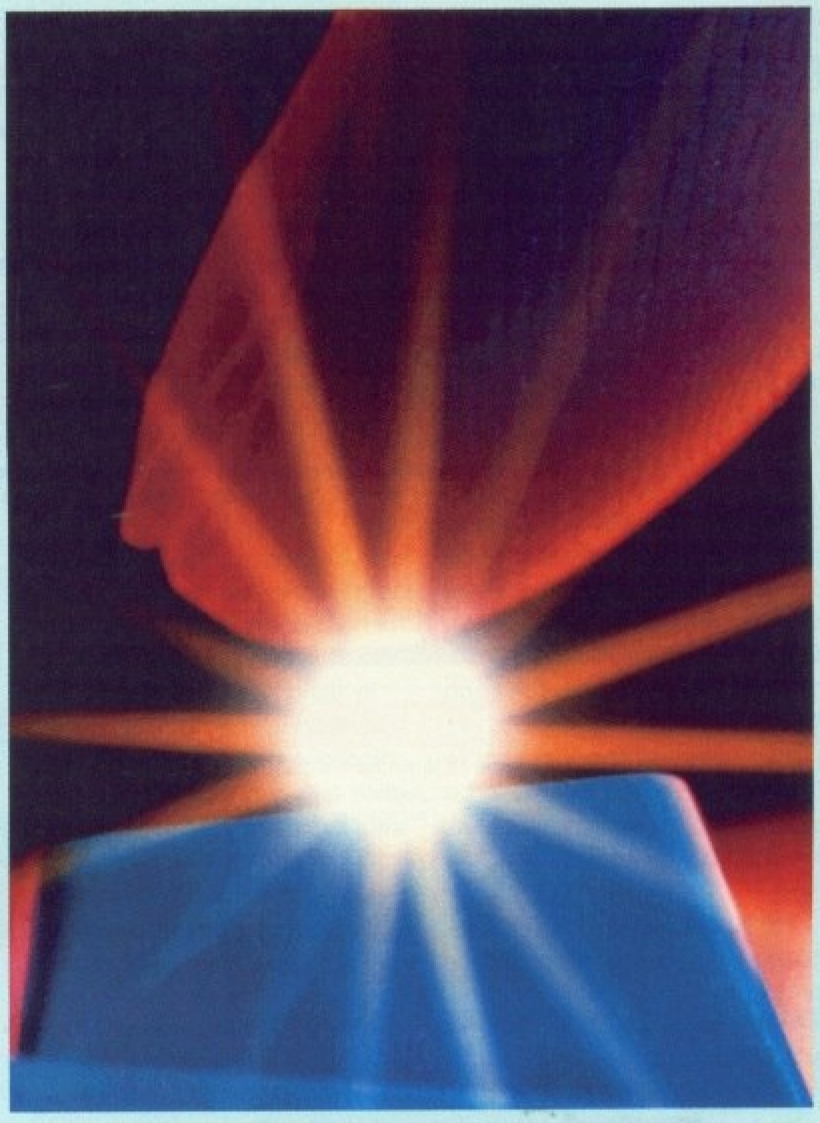
For this reason I won't be paying too much attention to the restrictions caused by using a standard A500. All of the operations in the series will be possible on a basic machine – they just might be a lot more hassle to carry out.

Laziness and confusion are two of the most common causes of frustration for new Amiga owners and I will be concentrating on the areas of AmigaDOS which most often induce these factors and outlining tricks to reduce them. What your average lazybones fails to realise is that by skipping over a simple feature such as wildcards, which is not immediately self-explanatory, you make a lot more work for yourself later on.

This month we start with the AmigaDOS directory structure, moving around directories, file handling, and the short-cuts available to these operations. Once we're comfortable with movement around the system, next month we will go on to an overview of the operating system, configuring a 'start of day' boot disk, and customising the Workbench environment. Later we will be discussing a wide range of other subjects including the powerful potential of batch files.

If there's an area of AmigaDOS you would most like to see explained, then write to:

Beginners Guide, Amiga Computing, Europa House,
Adlington Park, Macclesfield SK10 4NY.



CLI is a doss!

Confused by obscure command sequences? Afraid to find a path through AmigaDOS? Stevie Kennedy shows the way...

Many people don't bother to pay attention to the way in which Workbench is organised or to find the easiest way of moving around it.

Initially, they find learning the necessary commands boring, but it needn't be so. And if you miss out this most basic area, all your subsequent forays into AmigaDOS will be hampered by your clumsy appreciation of the system.

AmigaDOS is a hierarchical tree-shaped filing system (see Figure 1), which means that it starts with a root directory and works its way down through as many levels of directories, or drawers, and sub-directories as it needs.

From the other end of the scale, files of a common sort are organised into directories, which may in turn be held in other drawers, and so on until the root directory, or parent of all the directories, is reached.

This is the root directory of the current disk or volume. The advantage of such a structure is that everything is logically organised, and files can be sorted down into as many neat little parcels as you please.

The biggest disadvantage is the way in which the directory tree tends to blossom rapidly into a disk-based spaghetti junction, so it's vital to find a few methods of cutting down the tedium of moving from A to B.

It is at this point lazybones would switch off his or her brain and slavishly follow the longest way round.

The smart user will look for short-cuts, and the first of these is the CD (change directory) command itself.

By typing CD on its own the current directory is displayed, and by using a slash character (/) you can instantly move to the next highest directory.

For example, if you are in a sub-directory of your Workbench's system drawer and you type CD / /, you will go straight up two levels to the root directory.

These are of course pretty basic little tricks, but neither are explained in the User's Manual and

both can be very handy when doing a lot of directory swapping.

The second shortcut, which a lot of people ignore, is the PATH command. As its function is entirely a matter for the system's operation, and as it requires a bit of thought on the way in which CLI works, it is a regular victim of laziness.

The PATH is a list of directories in which Workbench will look for CLI commands before trying the C: directory and giving up with the 'unknown command' error message.

A lazy user will ignore the PATH command. This is OK while using a copy of the original Workbench disk as its startup-sequence lays out a comprehensive pathway. But when he uses a system disk that has no such facility, he soon becomes unstuck.

If you want to avoid having to CD to the directory containing a utility and you'd like to run from CLI, simply add the directory to the PATH.

For instance, if you have a disk called 'Utils' in your second drive and you wish to access its utilities from CLI without typing CD DF1: every time, just type:

```
PATH Utils: ADD
```

You can use PATH <directory> ADD as many times as required. If you find that the pathway is becoming too long typing PATH RESET will restrict it to the C: directory on your system disk until you expand it again.

The third and easily the most useful shortcut for moving around directories is the ASSIGN command. Please do not ignore this little beauty, no matter how lazy you are, as it can save you a great deal of typing.

The ASSIGN command is used to assign 'logical device names' to deeply nested directories that are regularly used, thus making them much easier to access.

For example, if you habitually place text files in the directory df1:protext/work/ textfiles, you will have to type in that long pathname every time you use the directory.

However, if you type:

```
ASSIGN TEXT: df1:protext/work/textfiles
```

then you need only ever enter CD TEXT: to go straight to the textfiles sub-directory, as it has now been assigned that logical device name. For hard drive users in particular this command is a godsend.

By using ASSIGN with care, you can retain the neatness of a hierarchical disk structure while still being able to jump quickly from one small branch of the tree to another.

The best way to use the command is to sit down and list all the logical device names you'd like to assign to your most used directories, then ED the startup-sequence on your boot disk and add the list of ASSIGNs somewhere before the LOADWB command.

For maximum speed place them between the commands RESIDENT ASSIGN PURE and RESIDENT ASSIGN REMOVE in the StartupII file.

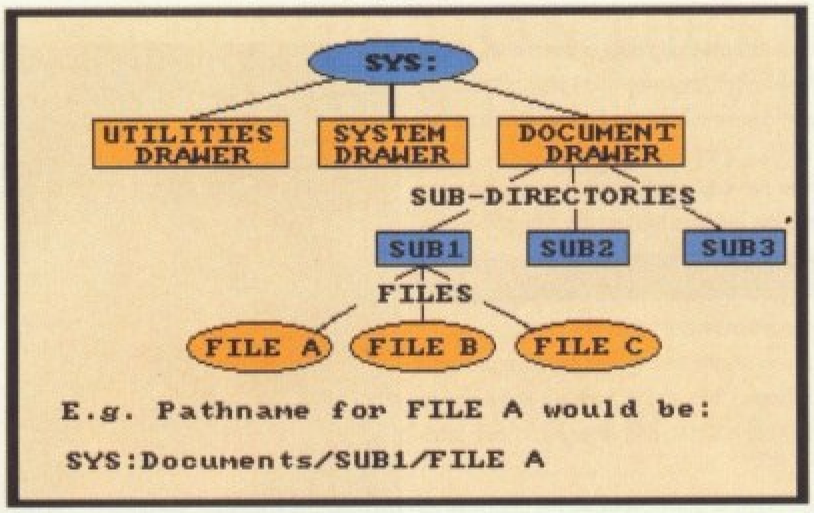


Figure I: The AmigaDOS tree-shaped filing system

File tips

Systematic file handling is one of those exercises most people convince themselves that they'll never really need to do. I mean, most of us haven't got enough files to bother about, have we?

Wrong. Introducing a bit of method into the way you handle AmigaDOS files makes your whole system easier to handle and faster to use.

The first thing you'll have to remember to do is to use suffixes for all your files. As AmigaDOS doesn't demand these in most cases, the average person tends to take the easy way out and names files in any old fashion.

However, without them you cannot make full use of wildcards or pattern matching, and without these your file handling will be primitive and slow.

Don't just call a text file 'thingy'. Call it 'thingy.doc', and it is instantly recognisable for what it is. To go further, you could attach suffixes depending on the word processor used to write the file.

So thingy.kdw will have been created on KindWords, thingy.pro on Protext, and thingy.asc will be a simple ASCII file. Picture files can have suffixes such as .iff, .ham, .ehb, and so on.

Do this as a matter of course in a consistent fashion and your files will be much more malleable.

Wildly exciting

This is where wildcards and pattern matching come in. A wildcard is a character that can be substituted for another string of characters in whatever form you specify using the characters in Figure 2.

Pattern matching is the process of bunching files together, using wildcards, according to common file names or suffixes.

Again, these are relatively simple concepts, which the lazy user tends to skip over, so that he or she ends up, for example, copying lots of files from one directory to another one at a time!

Let's say you wanted to copy everything in the VirusX directory on last November's *Amiga Computing* cover disk to a disk in the external drive. Rather than typing COPY <filename> TO DF1: over and over again, just make sure you're in the VirusX directory, then type COPY #? to DF1:.

As you can see from Figure 2, the #? wildcard will pattern match any string of characters it comes across, and effectively makes COPY #? a global copy command for the contents of an entire directory.

Wildcards will work with most of AmigaDOS's file handling commands. You could, for example, use RENAME #? TO #?.DOC to give all your text files the desired suffix, or DELETE #?(.kwd|.asc) to get rid of all KindWords and ASCII files.

Study the wildcard characters use your imagination, and before you know it you're saving yourself a great deal of trouble.

Figure 3 shows some suggested common uses for wildcards and patterns.

Character	Explanation
#<pattern>	Will match all occurences of the pattern
?	Will match any character
(...)	Brackets will form a pattern from any group of characters
|	The 'Or' sign is useful for matching more than one pattern
%	Matches a blank string – not sure how useful this one is, folks

Figure 2: Wildcard characters

DELETE #?	Delete all files in the current directory
RENAME #?(.doc|.asc) TO #?.text	Rename two separate groups of files with a single suffix
COPY #? TO <directory>	Copy all files in current directory
LIST (Thingy|Wotsit).prog	List Thingy.prog and Wotsit.prog only

Figure 3: Suggested uses for patterns and wildcards

Next month

You should hopefully now be able to move around your system disk and throw files about a lot faster than before. Next month I'll look at customising your Workbench disk and startup-sequence and attempt a brief overview of the Workbench system. ENDCLI.



Pixie Dust!

Paul Austin pelts Psygnosis with a few home truths

Hidden away in Liverpool's revitalised dockland lurks the leading light in the art of software presentation – Psygnosis, the company famous for its animated game intros and infamous for its games, or perhaps the lack of them.

In a short career in computer journalism, I've come to expect that a company's surroundings usually bear no relation to their products – some very hi-tech work can arise from some pretty lo-tech places.

For Psygnosis, this theory was shot full of holes. The company's offices were nothing short of sumptuous, boasting a designer riverside view, acres of fitted carpet and tasteful decor.

With a decent pair of binoculars it's reasonably easy to recognise the person at the next desk.

After receiving the customary coffee, it was off to a dim corner to see where the incredible intros greet the world – not to mention those fine fellows responsible for such momentous events.

Creating the classics

Jim Bowers, author of the amazing Awesome intro, was first to suffer the nerve wracking experience of having my tape recorder shoved in his face.

Like a true scouser, he wasn't put off by such a minor inconvenience and was soon in full swing, displaying his wares with the aid of a 3000 and 100Mb hard drive.

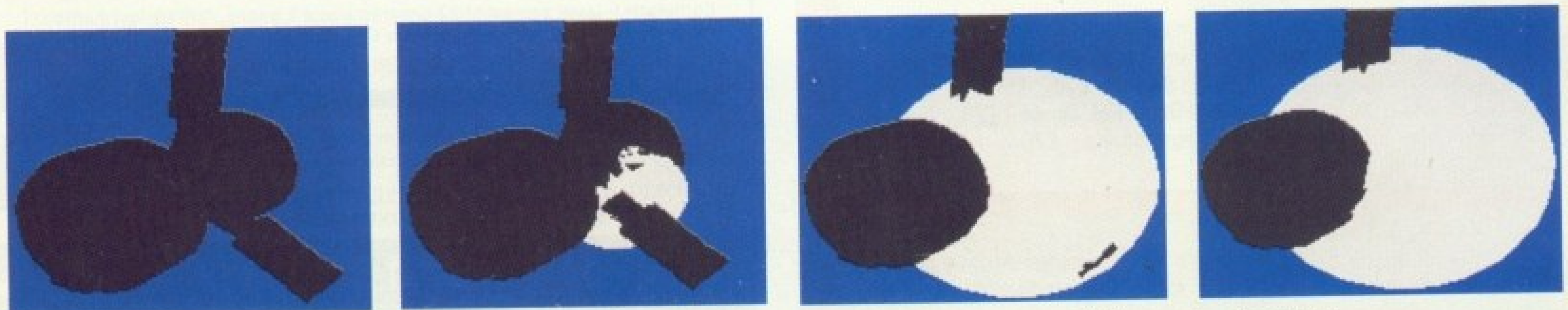
This setup he found a little constricting and made a point of inquiring if I might know the whereabouts of an extra hard drive, so that he could have some room to work.

At this point I felt a lump in my throat and a tear in my eye. Fancy having to struggle with the fastest Amiga available and a measly 100 meg of storage! These guys really suffer for their art...

Jim went on to unravel some of the mysteries of creating incredible animations. The principal tools used are Sculpt 4D and Dpaint III. All the object modelling is done with Sculpt, with backgrounds and touch-ups by Dpaint.

First, I was shown the technique of expanding the still background border of an animation screen. This is done when an object approaches and the expansion can be as little as a quarter of an inch, but the effect does wonders to enhance the feeling of movement.

Ever wondered how some of the amazing explosion sequences are put together? Jim uses the technique of creating a mask or template of a previously rendered object. He then plans out the action before producing the full



Here's how the pro's do it, a step be step rundown of the mask process used to create the amazing explosion sequences that Psygnosis are famous for

blown bang.

The object that is about to meet its end, or rather its mask – basic outline – is placed on screen and an impact point decided on.

A basic globe is created via sculpt and this can be expanded to engulf the object – exactly the same way that an actual explosion would expand through and around a real object on impact.

This method provides gives a great way of mapping out the action frame by frame, and as a result an extremely realistic effect can be rendered without the need for guesswork.

Once the various frames have been created, the expanding global explosion is shaded as required using Dpaint. This produces the clouds of debris belching from a dying craft. The complex graphical effects are based around the initial expandable global blueprint.

This technique, and numerous others, Jim incorporated into the Awesome intro, which took three weeks to construct from scratch. It's an impressive achievement when you consider the 25 seconds of rendered objects and hand – drawn back-grounds.

Moving on

The next victim was old friend Neil 'Tom' Thompson, Jim's partner in crime and co-producer of the Nitro intro. His contribution was the wheel-spinning sports car which roars off into the distance.

Neil gave me a quick tour through the the research and development department, with an amazing display of fractal graphics, which he'd imposed onto a constantly changing rendered object. This was achieved using brush-bending techniques.

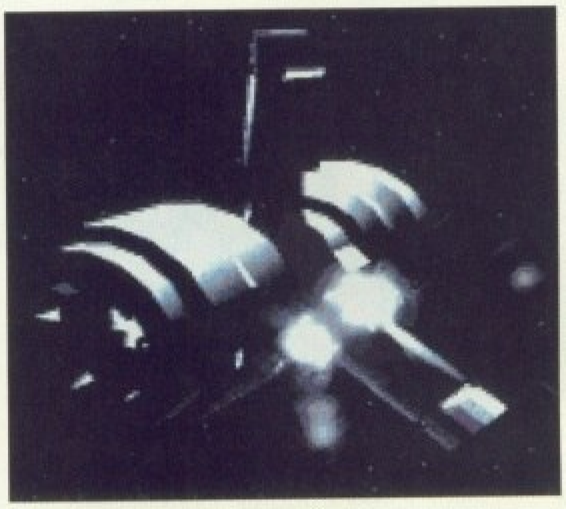
Much of the stuff on show may never see the light of day in a commercial sense, and this is a great shame. Perhaps we'll see it via another medium.

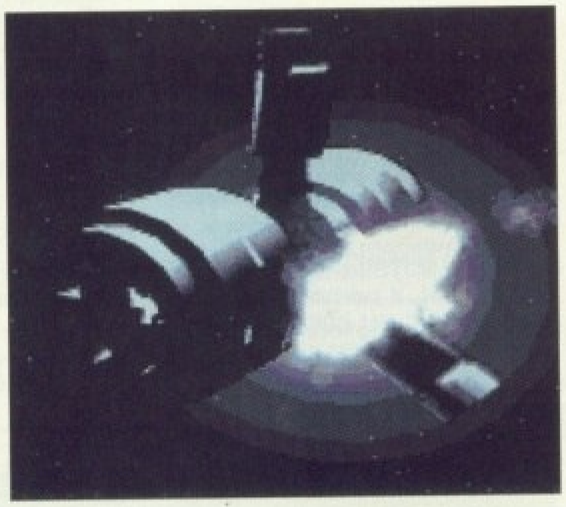
My final question revealed the secret of the Psygnosis intros. How did they manage to fit the intro and the game into the available disk without breaking the laws of physics?

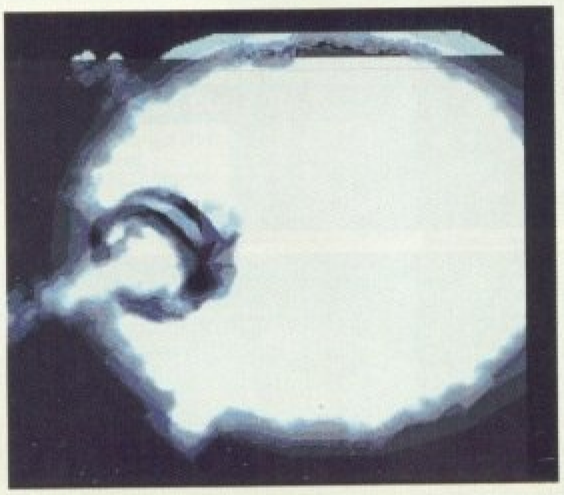
Even employing the latest runtime decompression techniques it's difficult to figure out how the process is achieved. The simple, and previously top secret answer, is Pixie Dust. Not ordinary, common or bottom-of-the-garden Pixie Dust of course, but special patent Psygnosis Pixie Dust.

I had my suspicions, but who would have thought it would be that simple? Amazing!









Here we have the result of all the hard work, a simple yet stunning animation sequence. All created in a single day by Jim Bowers the star of Psygnosis

The next generation

There's a feeling percolating the entire company giving the impression that the games were on occasion something of an afterthought. I asked if the company considered itself a true software house, or a software publisher which simply added the icing to an often less than perfect cake.

Not surprisingly, this accusation was hotly denied by Nik Wild, the company spokesperson and wordsmiff. He did agree that in the past the intro sequences sometimes made the accompanying game look very sad indeed, but he assured me this was all in the past, and a new era is about to dawn on the banks of the Mersey.

Did this mean the end of the amazing intro?

"Quite the contrary" , said Nik, "the aim is to concentrate much more on the games design side, without compromising the intros in order to do it".

To prove the point he talked about certain new releases that will even feature 'outros'!

The company aims to move some game production in house, with a leaning towards family orientated software.

Slightly confused, I asked for an example of the former blast-'em-up specialist's new direction.

"A great game, you'll love it, game of the year, no problem...". They weren't wrong, as I'll reveal later.

At present all the games are produced out of house by external developers, and software only arrives in house for play testing and the finishing touches.

I was assured that a close touch was kept with the designers, but I'm not completely convinced, and the possible lack of in-house production may be the cause of the lack of gameplay apparent in certain past releases.

As I mentioned earlier, a new approach is definitely the dish of the day and Lemmings, a latest

release, features high on the menu. Those familiar with Psygnosis products of old, would be hard pushed to recognise this as part of the Psygnosis staple diet.



At first glance you could be forgiven for thinking that Lemmings is aimed firmly at the younger end of the Amiga market, but this isn't really the case. Although suitable for all, it will almost certainly become a cult classic for kids of various ages.

The aim of the game is simply to guide a large number of mind -numbingly stupid rodents through increasingly tricky puzzles to the safety of a somewhat less than convenient exit.

This is done by bestowing certain character traits on your furry friends such as bridge builder, digger, climber and so on. Sounds simple, right?

Wrong! It will drive you mad, as you try desperately to stop the reckless rodents from throwing themselves over cliffs, jumping into rivers, frying their furry bodies in raging flames and so on.

Probably the most amazing feature is that it's actually an original concept – amazing!

It's a long time since I played a game with this most rare of qualities, and if you enjoy a little thought with your fun, this is a must for your collection.

I'm certainly not slow to point out the problems at Psygnosis but this certainly isn't one of them. It may be early to be making predictions, but game of the year could already be in the bag. Yes folks, I'm impressed.

Leander

Next comes Leander, a much more familiar format for Psygnosis fans. The game features 30 levels of parallax screen play, not too dissimilar to that of the Beast series, although the gameplay and graphics are a good deal better than its predecessors. It's a good deal more playable, even before you've had 10 pints.

Smooth scrolling, massive hardware sprites, numerous baddies, accompanying sound effects and of course another of the Psygnosis specialities, an excellent musical accompaniment, all creating the mood for some good old fashioned hack and slash.

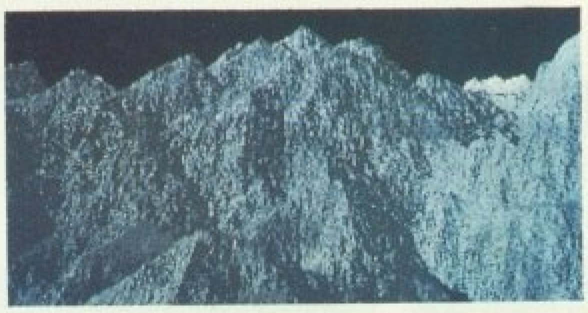
Armour-Geddon

Nothing to match the originality of Lemmings, but if you're a fan of arcade adventures I doubt you'd be disappointed with your investment.

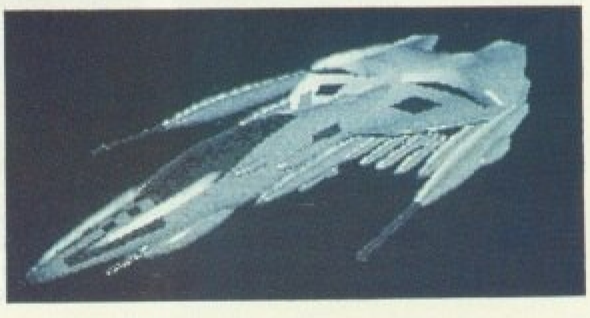
A thinking man's blast-'em-up, a convenient, if perhaps less than accurate description. A flight sim fan myself, my eyes lit up at the sight of a vector graphic airfield awash with enemy tanks.

I took control and after strafing a few baddies, Chris Stanley, the Psygnosis head test pilot kindly informed me they were in fact my own tanks, and it might well be a good idea to attack something else...

Chris went on to explain that rather than just another simulation, Armour-Geddon is in fact several sims all rolled into one, with the various elements combining to form a fighting force which the player commands from any of its component parts. The familiar save the world scenario is the reason for the rallying of arms. Each player takes control of various vehicles, tanks, helicopters, planes and so on. The idea is to formulate a strategy for the whole campaign and take on the baddies.



An amazingly detailed fractal landscape produced by the in-house coding team



A spaceship, yet to grace the silver screen. A fiction of Neil Tompsons warped mind, but skilled hand

In addition to fighting the foe, the strategy element of the game extends to the creation of new weapons in your research and development department, plus the maintaining and building of existing hardware by your loyal work force.

And as if that's not enough, a serial link option has been added, not only for Amiga to Amiga, but also Amiga to ST or even PC – a welcome addition of icing to an already sweet piece of software cake.

Given my short experience, Armour-Geddon looks like another big seller along with the wonderful Lemmings. A full review of all of the above appears in *Amiga Computing* as soon as I can convince these fine fellows to hand over the goods.

And so to bed...

Psygnosis has been justifiably criticised in the past for a lack of depth and variety, and this was a point I put this to Steve Riding, head of production.

He agreed in part, but went on to say it was all about to change, and indeed if the latest batch are anything to go by he may well be right.

There were rumours in the industry that Psygnosis might have been suffering from a slight cash flow problem in the recent past but I'm sure that with these new releases the company's future success is assured.

In these rapidly changing days, most companies are struggling to keep pace with the changes in technology. For Psygnosis, however, I feel the situation is quite the reverse and the best is definitely to come.

I doubt the company's greatest day will dawn with the Amiga, but rather the next generation of Commodore machines. Until that distant day, the Pixie Dust is all ours.

Does using your Commodore mouse feel like pushing a bag of wet sand over a rocky beach? If you've never used anything other than the standard Commodore offering, you may well be puzzled by the imagery.

If, however, you've ever had the pleasure of a replacement rodent, you'll know exactly what I mean.

The Commodore mouse is a sturdy beast, but using it can sometimes be a little like trying to kill a fly with a baseball bat.

No longer does the beginner have to spend hours learning a command line and years trying to master it.

In the PCs of old no one had a choice but to learn the obscure CLI interface – a simple case of get on with it or give up computing.

The pain and misery went on without any apparent end in sight until smiling faces from Silicon Valley did the unthinkable and produced the first graphic user environment.

The Apple Macintosh was the first to break the mould and put a smiling user-friendly face of the previously elitist computer market. Even though it pains me to say it, the Mac still boasts the best front-end in the business.



Truemouse – the cheap alternative takes on the mega-mice

Where the Mac falls down is in its tendency to be a little too friendly. If you want to open it up and mess around, your friendship will come to a sudden and acrimonious end.

As a result of the Mac's success the WIMP system – Windows, Icons Mouse and Pointers – has been adopted by all the serious machines. As a result, the silicon sidekick has become as familiar as a floppy.

The Amiga is a perfect example of the best of both worlds, incorporating the power of the command line with the ease of the Workbench environment, pull downs and wonderful windows, multi-tasking and the chance to get your hands dirty delving into the CLI, all controlled with that dinky little mouse – bliss.

So why change the Amiga's rodent? It can't be stressed enough how big the difference is between a high resolution mouse and the Amiga's own.

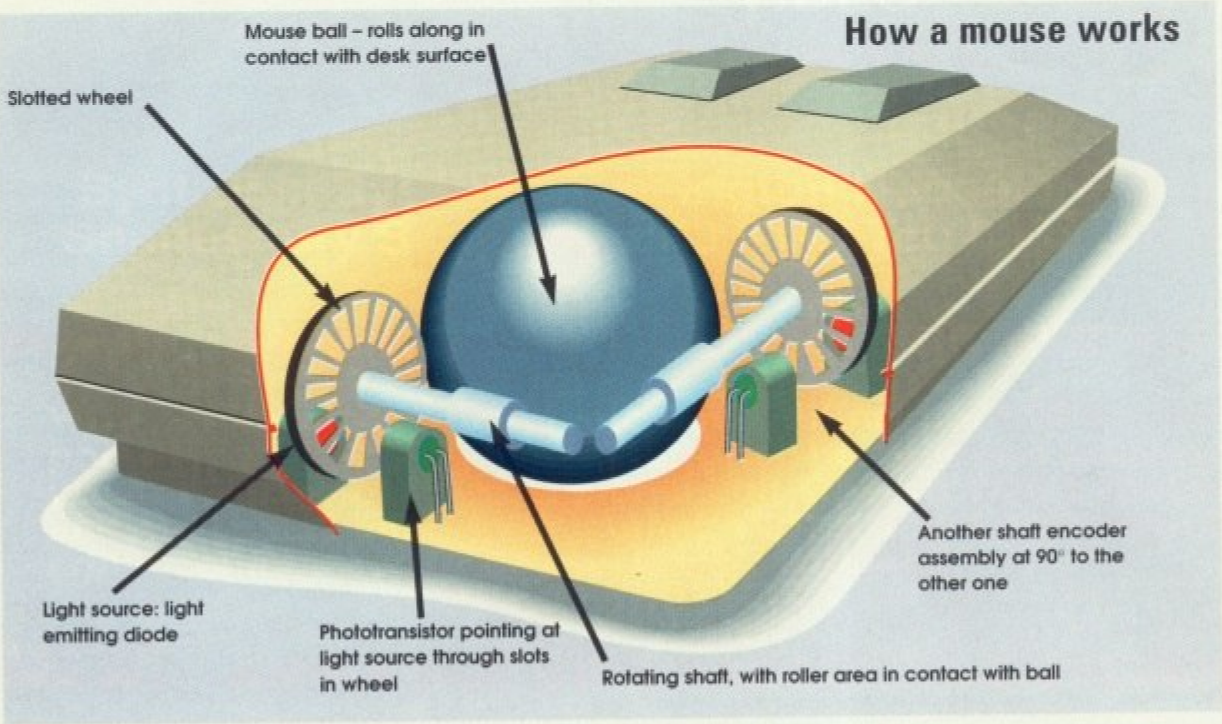
If your use of the mouse is limited, or you only use it for opening and closing the occasional window, the need for something better might not justify the expense. And there is an alternative to a complete change.

If all you need is a faster mouse with perhaps a few extras, it could be well worth calling up a few PD houses, almost all of which will be able to offer a number of mouse utilities such as Zoom or Dmouse.

Alternative input



Frantically tapping at the buttons, Paul Austin sorts the rodents from the boys



Both of these can be placed in a startup-sequence or accessed from Workbench.

The effects vary, but most noticeable is the increase in speed. There are some other pleasant touches such as disappearing pointers and screen blanking.

If you're into slightly more serious things than disappearing pointers, there are some excellent mouse utilities out there.

Anyone into DTP or graphics is really missing out if they're not running a mouse co-ordinates utility. This constantly displays the exact position of the pointer on screen.

And if you've ever tried to place items on screen using guesswork alone you'll know how handy this can be.

If you're really keen you can have the best of both worlds with a new high resolution rodent and the utility of your choice.

So let's get on with some definitive reviews of the best and worst replacements now on the market – five mice and three examples of its near cousin, the trackball.



The opto-mechanical – perfect for those with a gentle touch

Truemouse

First on the hit list is an offering from the cheap end of the market. But don't let that put you off, the Truemouse is an excellent product at a very reasonable price – approximately half that of some of its competitors.

No sign of a mouse mat, tut, tut, but the Truemouse worked perfectly directly on the desk or any other smooth surface. It is a sturdy little creature, with a tough case and a refreshingly weighty ball.

At the moment weight seems to be less than fashionable but it does give a reassuring feel when attempting some pinpoint positioning.

Another pleasant fea0ture is the resistance of the buttons. Most replacement mice have very sensitive buttons. At first this is a joy, but the novelty soon wears off with the constant effort of suspending your tired figures over them.

The slightest relaxation will almost certainly mean an inadvertently opened window, or something much worst.

The resistance on the Truemouse is just about right. It's easy to use, accurate and comfortable. The whole thing is generally a pleasure, fitting nicely into the hand while still being smooth and accurate.

My only real criticism concerns the low resolution. Which appears to be almost identical to that of the Amiga mouse.

In some cases this may not be a disadvantage. When drawing free hand in a paint package for example, the combination of smoothness with minimal movement can in fact help rather than hinder.

If you did want to speed things up you could always go for Zoom or something similar.

The low resolution no doubt accounts for the exceptionally long, six feet of coiling cable cluttering up my desk.

Beetle Mouse

This is definitely the other end of the mouse market. The Beetle Mouse is the latest in designer rodents, featuring a range of 64 colour combinations.

It's like a giant ladybird, and definitely the ultimate in design, featuring some very original styling concepts.

This is one of my favourite aspects of the Beetle. Ergonomically speaking it's excellent, fitting perfectly into the palm of the hand with the buttons well positioned and just about perfect resistance.

It must be said the Beetle is definitely a matter of taste. The rest of the office expressed the opinion that if you had any you wouldn't want one.

It doesn't appear to be the sturdiest mouse on the market either and feels very light in comparison with some of the others available.

The ball trapdoor is also unusual, using a slide fitting rather than the twist you're probably more familiar with. The ball is not my personal favourite, being rather light, but again it's a case of taste. The



Latest in designer rodents

weight has no effect on the performance, which is excellent due to the extremely high resolution of 320dpi, and the smooth acceleration. DPI stands for dots per inch – 320 is the best I've seen to date.

You'll either love or hate it, but once you're a fan you'll be hooked for life.

There is a price to be paid for all the glamorous styling and go-faster stripes though – hard cash! The cost will leave the Beetle firmly in the designer label department.

Naksha

The Naksha mouse has had a long and illustrious career, and in doing so has found favour with many a graphic artist due to its smooth operation. It's still by far the most commonly used rodent in the commercial sector.

The device is a good combination of comfort and speed. The buttons are well placed and weighted with acceleration similar to that of the Beetle. It's a little light for some tastes, but after 10 minutes your tastes would almost certainly change.

The optical mouse

Are you totally sick of polishing your mouse ball? Does scraping your rollers free of fluff bore you stiff? If so, the optical could be the one for you. The lazy user's mouse wouldn't be a bad description for this little gizmo.

The absence of a ball makes maintenance a thing of the past, and there's very little friction. This would seem to be a massive advantage as less friction should mean more accuracy. Unfortunately, it isn't the case – I found the pointer a little jerky.

This phenomena is no doubt due to the slightly lower resolution of 250dpi. Even so, it stands as a very reasonable option for general use.

Another down feature of the optical is its rather strange feel. The absence of a ball makes the mouse feel lifeless. Again this is probably a matter of familiarity.



Naksha – a big hit for the artists among us



If you don't mind the price the optical is the one for you

Opto-mechanical

Don't me misled by the somewhat confusing title, the opto-mechanical isn't an optical mouse similar to that from Golden Image.

Although there's the word optical in the name of this one, the way in which movement is read into the Amiga is exactly the same as that used by every other mouse.

Light detectors count the rotation of the pinch roller bars. The rotations are then simply added or subtracted from either roller to give an X,Y position.

Why Golden Image found it necessary to incorporate this common design element into the name is no doubt a case of imaginative marketing rather than important information.

A resolution of 290dpi is not too far behind the designer market, so the opto-mech could well be challenging in the graphics market. Styling is similar to that of the old Naksha design.

It's another lightweight but actual movement can be a little harsh and can occasionally feel lifeless. The buttons are the biggest downfall. They're extremely sensitive, making premature actuation easy, and that could open an endless series of errors and agony.

On the upside, you do get a rather nice mat complete with a graph design and ruler markings. What exactly they're used for is puzzling, but they're there if you want them.

Now for a look at the trackballs.

Marconi trackball

This is definitely the expensive end of the market, and considering its size and weight it's not exactly surprising. If you're ever attacked at your terminal you could lay your attacker out cold with it and still find that the device worked perfectly afterwards.

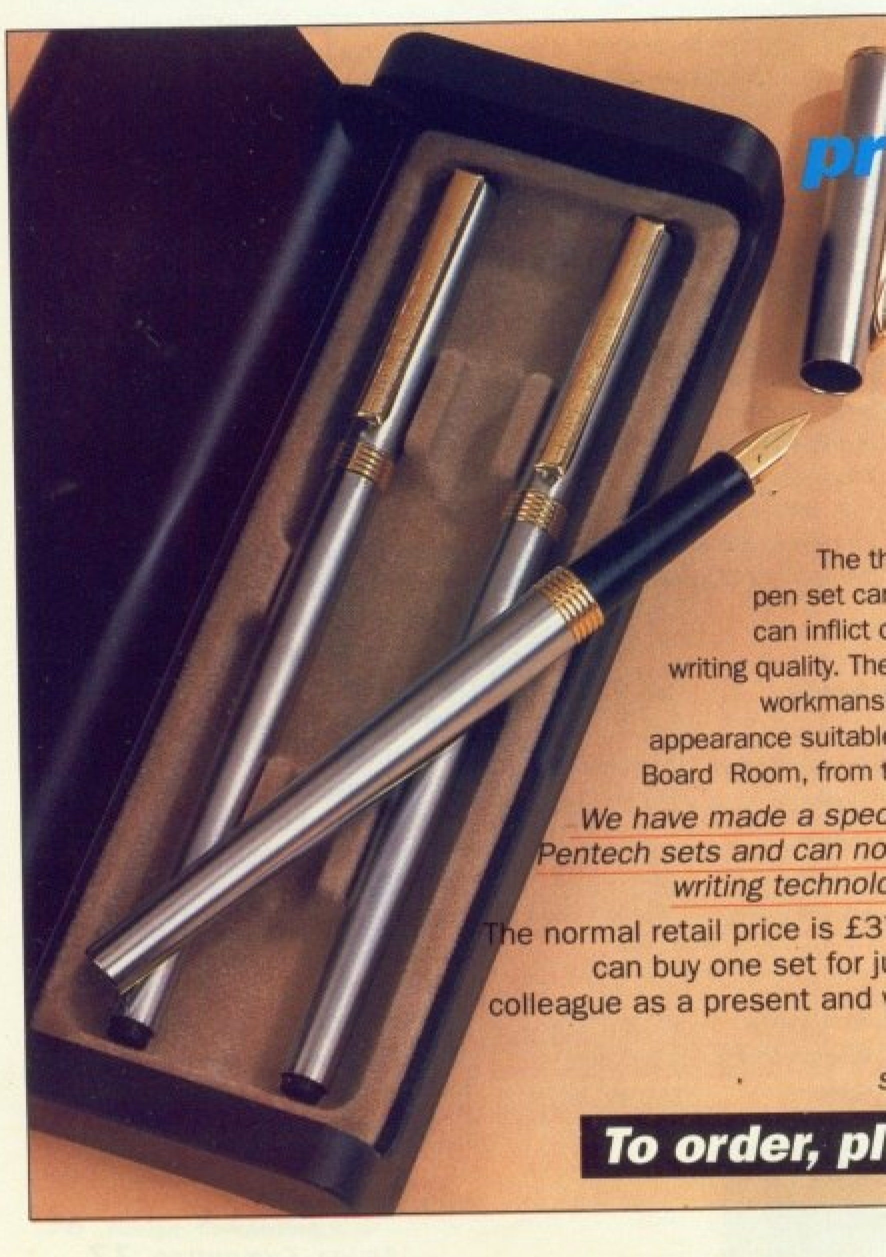
It must be said that the Marconi isn't the prettiest piece of equipment, but if aesthetics don't interest you and if you want something sturdy, it's perfect.

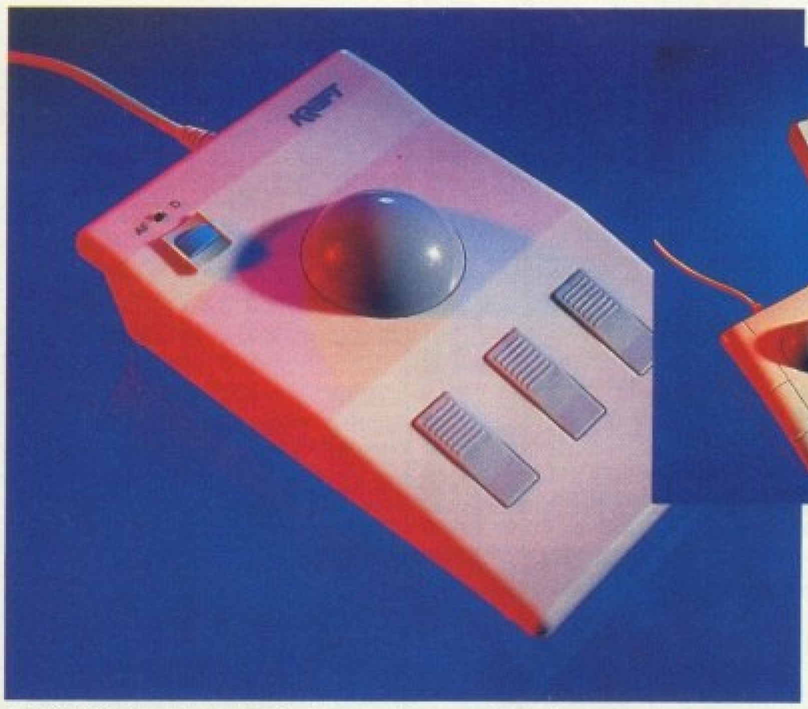
The device boasts probably the heaviest ball in the business and this adds to the substantial feel. A single flick sends the pointer sailing away across the screen.

In combination with the lock feature, a window glides open without the need to keep in contact with the ball.

The buttons have a long travel

Product	Ergonomics	Lead	Extras	Price	Supplier	Tel
Mice						
Truemouse	good	6ft	n/a	17.95	Evesham Micros	0386 765500
Beetle	excellent	3/4ft	mat	29.95	Gasteiner	081 365 1151
Naksha	v. good	6ft	mat		Naksha	
Optical	good	3ft	mat/manual/house	52.03	Golden Image	081 518 7373
Opto-mechanical		3ft	mat/manual	26.00	Golden Image	081 518 7373
Trackballs						
Marconi	v. good	3ft		54.95	Silica Systems	081 309 1111
Tripletrack	good	3ft		44.95	Evesham Micros	0386 765500
MC Track	excellent	3ft		39.95	Gasteiner	081 365 1151





The Kraft Tripletrack – unusual buttons and an acquired taste



Trackball city

and it would take a sledgehammer to damage them. They're situated some distance from the ball which makes it necessary to move your hand around in order to use both button and ball with ease.

Generally, an excellent product, but it could well be an acquired taste for those of you with a respectable bank balance.

Kraft Tripletrack

The Tripletrack is next in the hot seat. A slightly more pleasing appearance than the Marconi, Kraft's offering may well appeal to the more fashion conscious.

A built-in drag or automatic rapid fire button makes another welcome appearance. The ball is quite a weighty beast but by no means in the Marconi's league.

There's an ambidextrous approach to design with an extra button added for the left-handed members of the computing community, which is extremely thoughtful of Kraft.

Once familiar with the odd arrangement of buttons, the Tripletrack could well be a reasonable option, especially considering its relatively cheap price tag.

MC Track

Like all good boys, I've left the best until last. Ergonomics is definitely one of its strong points of the MC Track, providing an ease of use not available from the opposition.

The MC has an original approach to some basic design problems associated with trackballs. The first improvement comes in button placement – they're situated either side of the unit with the ball placed between the two.

This negates the need for hand movement which haunts some of its competitors.

My only criticism concerns the placement of the the lock button. It lies inconveniently at the bottom of the unit just where you'll want to rest the palm of your sticky little hand. If only it was at the top, the trackball would be perfect.

Of the trackballs, I prefer the MC. But given a test drive of the alternatives you might well disagree. As I mentioned, personal preference is a strong factor.

And the winner is...

My favourite mouse has to be the Beetle. It's a little light, but I'd be willing to suffer for the sake of 320dpi. If you don't fancy a mouse however, what's the alternative?

Faced with mountains of paper, floppies, old coffee cups and broken biros, the prospects of rolling a mouse around my desk are very slim indeed.

Because of this all-too-common situation, I've long since abandoned the mouse and moved on to a space-saving alternative. The trackball is basically a big mouse on its back.

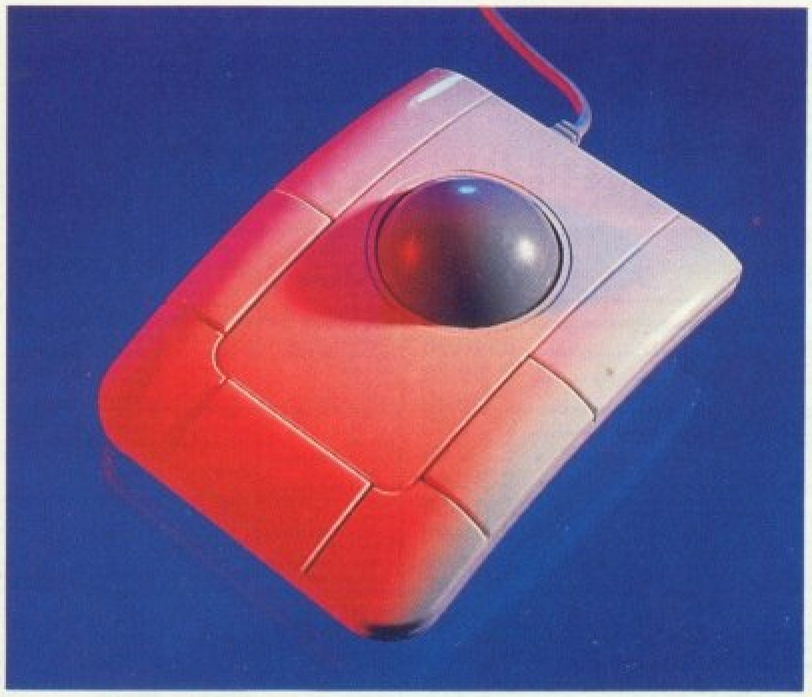
As a result, the only things that rush around are your fingers, whizzing the ball around in its socket. No more running out of mat, no more lifting and centring, no more knocking on to the floor and no more ball cleaning.

Good trackballs are absolutely perfect for general day to day use, opening windows, icon selection, and re-sizing, not to mention locking windows scroll bars, as well as cutting, pasting and so on.

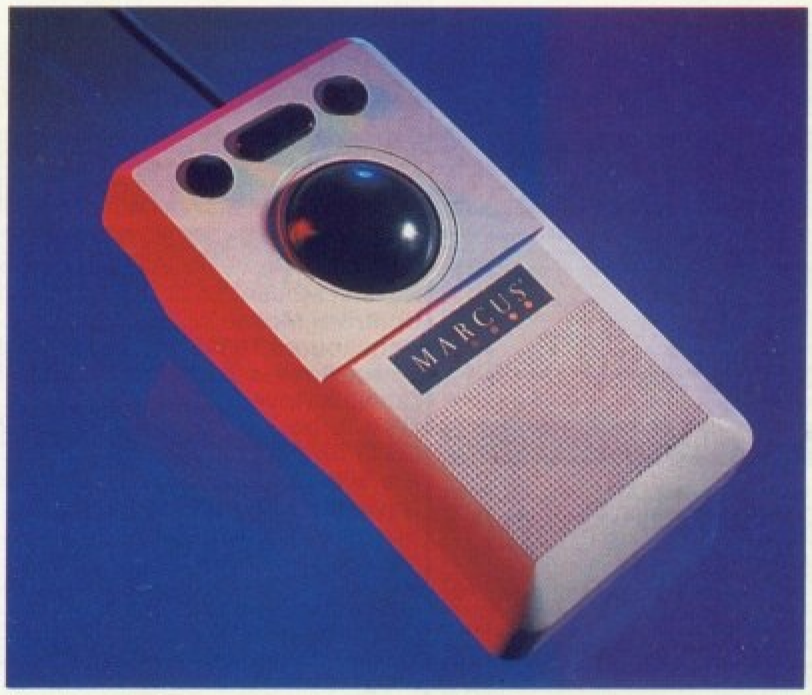
In general the trackball is quicker than even the fastest furless friend.

On the downside, if you're into any form of freehand art, a trackball is next to useless. It's not easy to draw a decent curve with a mouse, but it's almost impossible with a trackball.

So if you're not into artwork, the choice between the two is a matter of personal preference and depth of pocket.



Master of ceremonies, the MC Track stamps its authority



If big is best the Marconi is the only option

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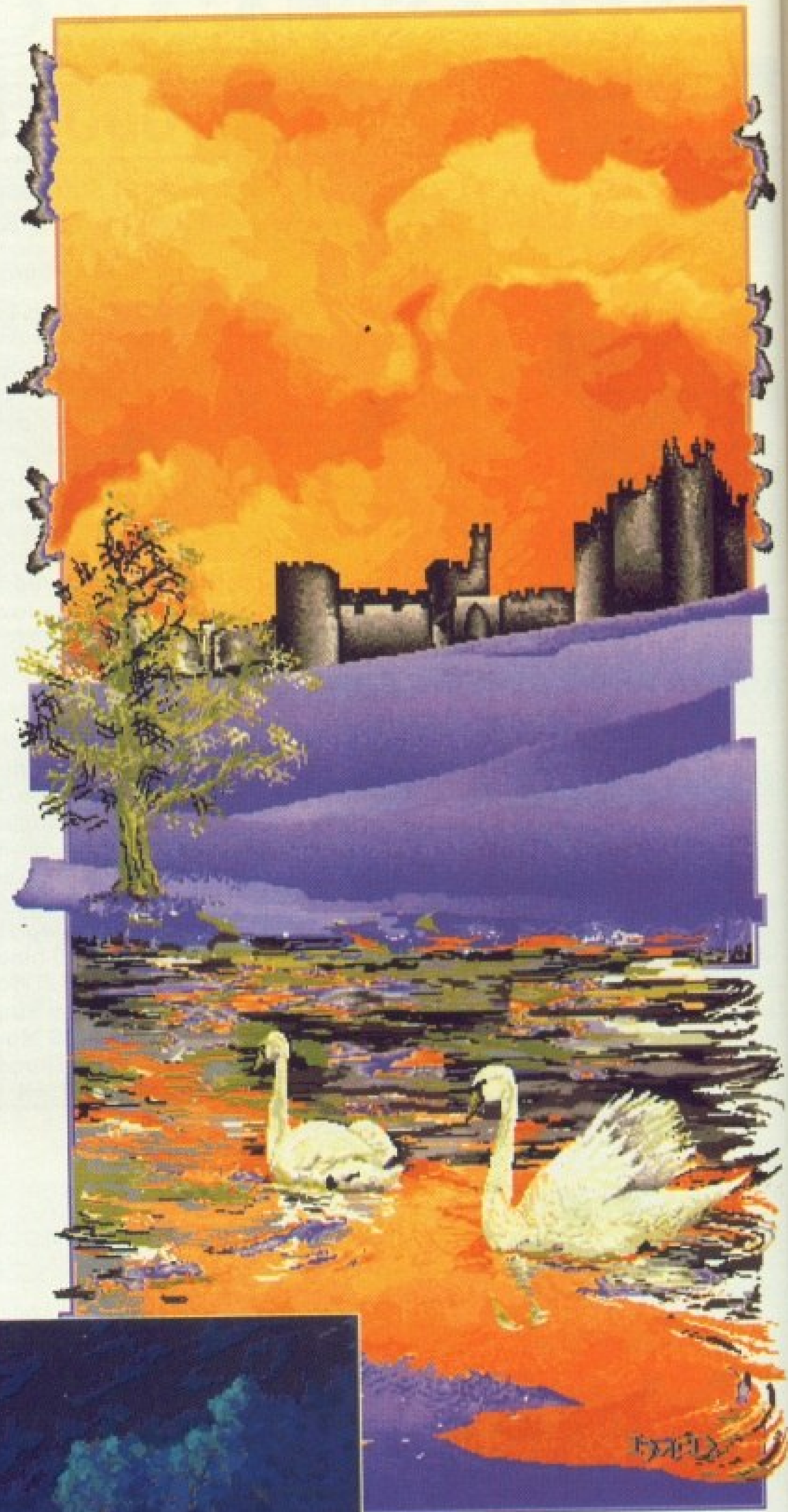
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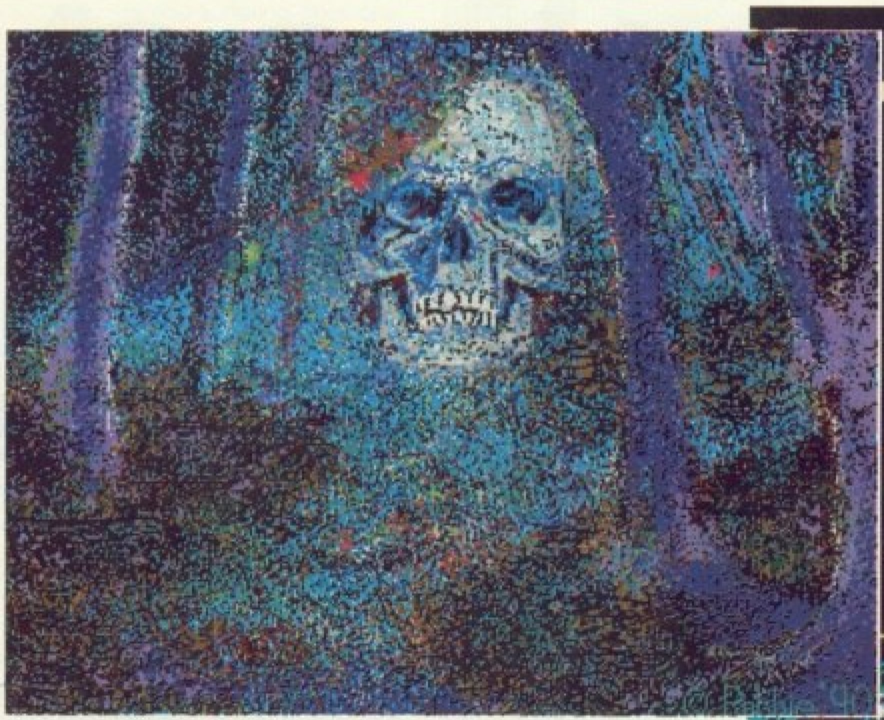
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The Gallery

The piccies this month reflect the quality and diversity of the work you continue to submit for The Gallery. We are always on the look-out for original work which shows depth of subject matter, artistic technique, and innovation.

On the other hand, we're also glad to receive funny, irreverent, or cartoon-style work, so don't think we'll only accept the serious and high-brow stuff! Keep 'em coming in folks.





St Michael's Mount: Colin McGowan, Ashford, Kent

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PUBLIC DOMAIN

Paul Austin picks the best from the rest in the PD parade

Are you suffering from one of the computer user's more common problems, a chronic lack of cash, that makes the prospect of buying new software fantasy rather than reality?

Don't despair, I have the answer to your PD dreams. Two disks full of classic games for just £2 apiece from Seventeen Bit Software – numbers 759 and 781. Volume one of the duo this time, with the other to follow next month.

The first and possibly best of this selection is the excellent arcade game Drip. Widely respected as one of the finest PD games available, it features 16 levels of wonderfully addictive joystick waggling.

The action takes place in numerous pump rooms as you guide your little hero around the pipes, painting as you go and avoiding the inevitable rash of baddies.

The whole thing is very reminiscent of Pipeline, which some of you may remember from your formative years on the Commodore 64.

Quality shows

The music and sound are first class, both enhancing the already high quality of the graphics and game play. In short, it's difficult to believe that this is PD.

It would be easy to spend the obligatory £24.99 and end up with a lot less for your investment.

Next on the list comes the oddly named Bally – in fact the entire game is somewhat strange. The object is to trap various highly mobile pixel-like opponents as they bounce around the playing area.

This is done by trapping them in the coloured area created as you as you guide your personal pixel around the screen. The tricky bit comes when you or the line you trace is struck by the baddies before you complete a connection to form a new block.

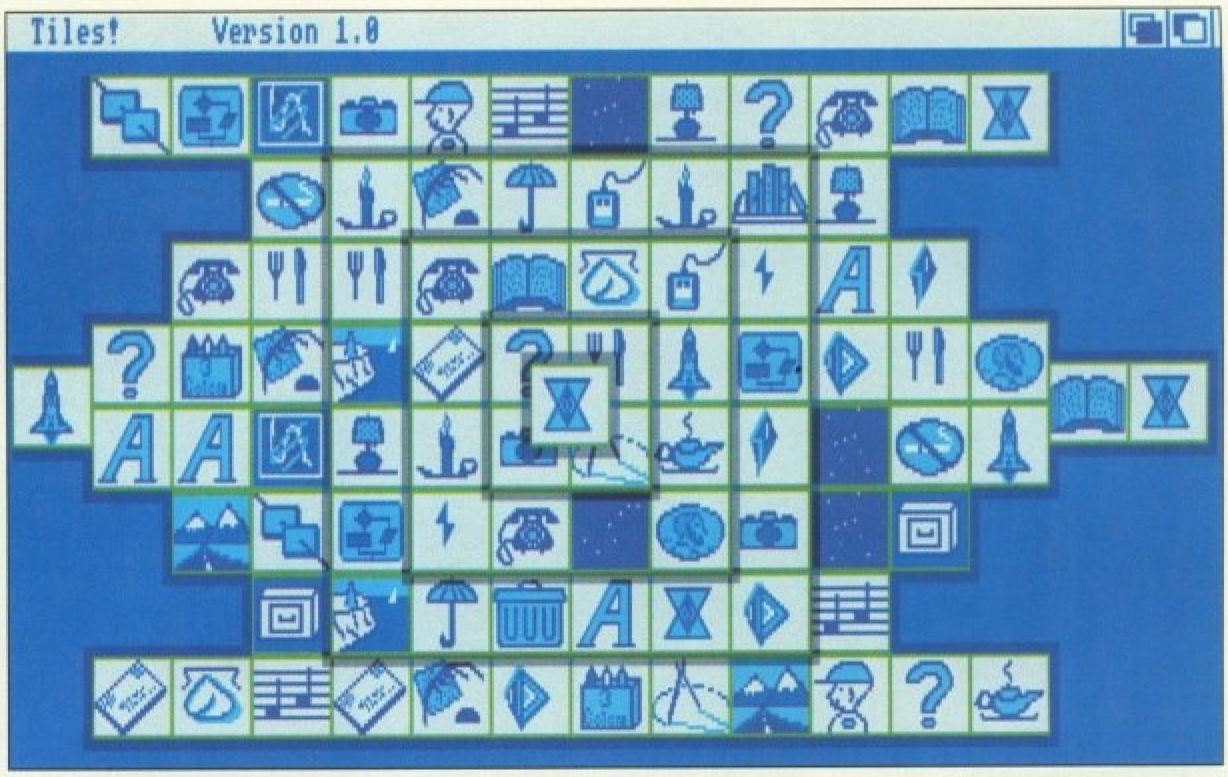
It may sound a little confusing, but confusion will soon turn to frustration, not to mention addiction after a couple of games. An unusual and interesting item well worth a closer look.

Inscrutable fun

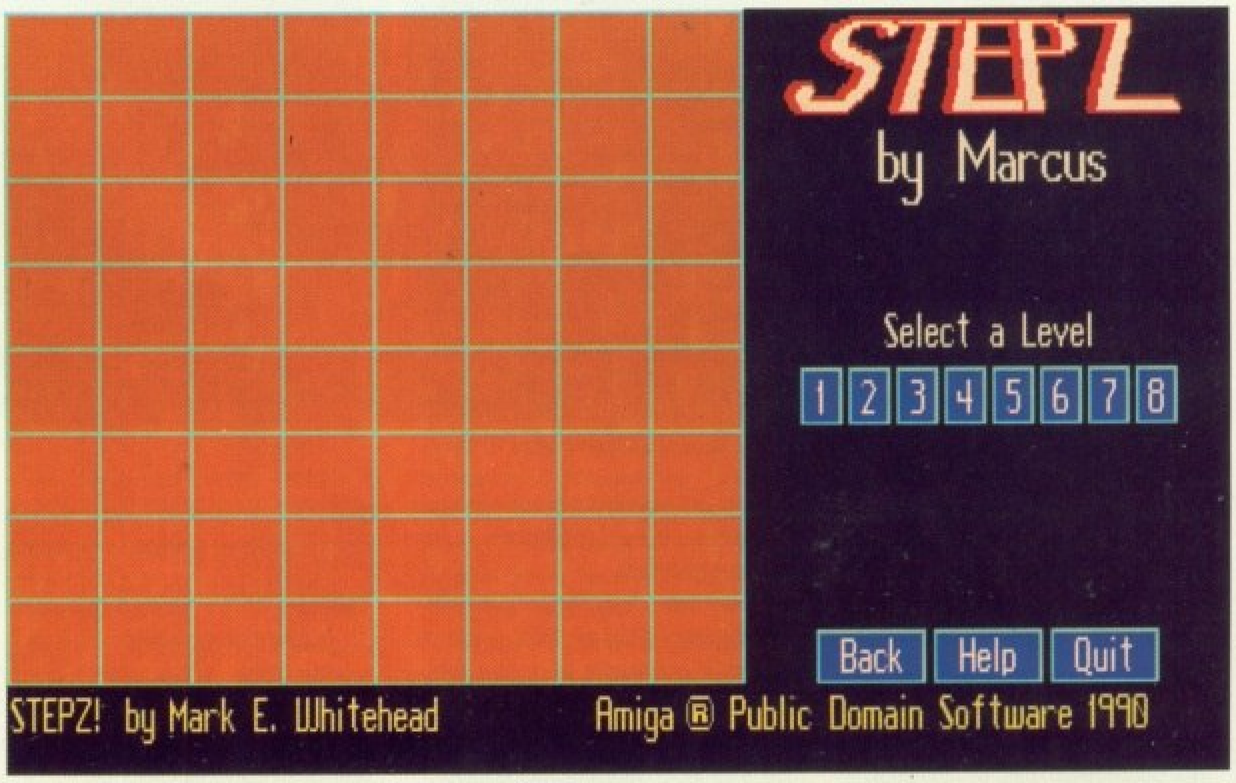
Yahzee? Sounds a little familiar. Yes, you've guessed it, the coffee table classic reaches the Amiga.

Up to four players can take part, each taking turns to roll the dice and compile the highest score from the results. It's by no means a simple task, as any board game veteran will tell you.

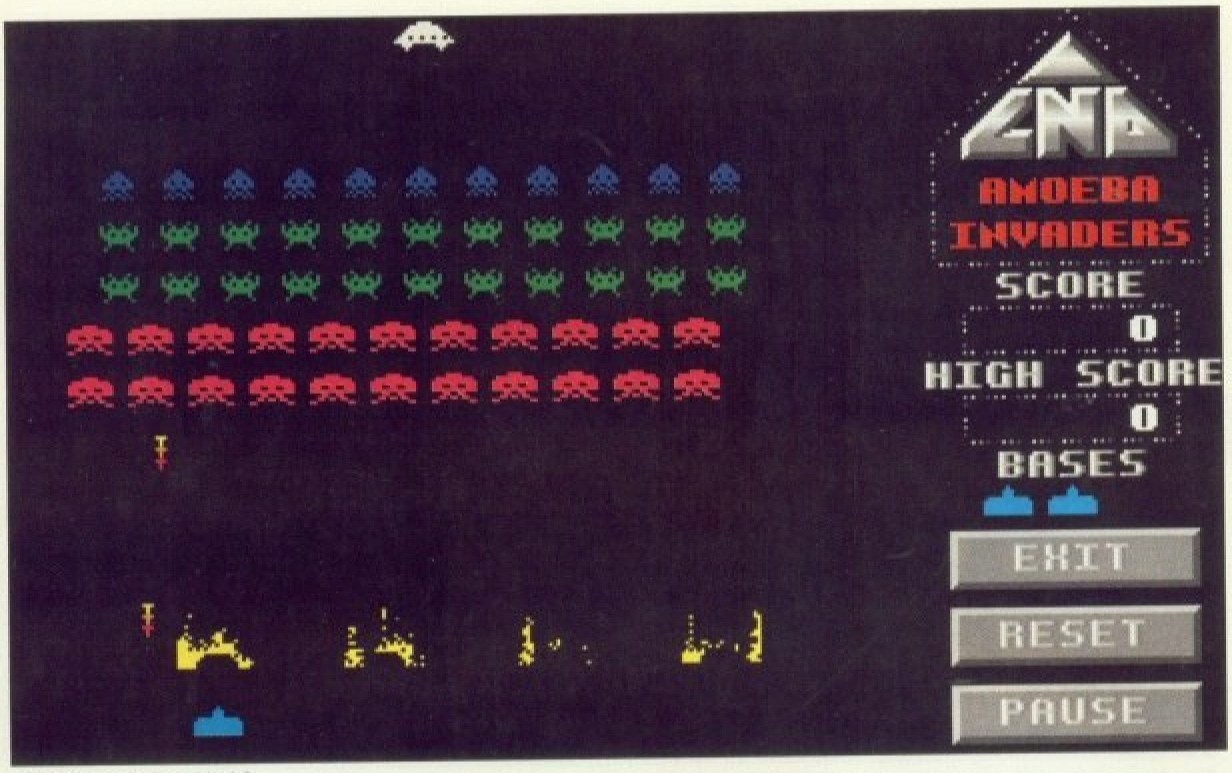
The graphics are pleasantly



Tiles: More exciting than decorating the bathroom



Stride your way through numerous, thought provoking levels



Doesn't it take you back?

done, composed of a large multi-player score card accompanied by the five game dice.

All the options are available via a click of the mouse on either the card or screen icons. Believe it or not there's even a smattering of sound tastefully provided as you rattle your dice.The game plays excellently and is both easy to use and addictive. This is an excellent conversion from an already massively popular game, and again it's difficult to believe it is PD.

"Do you what to play a game?" If you ever saw the film War Games you will no doubt be familiar with the next offering from Games Galore, namely Tic Tac Toe or as we Brits know it, noughts and crosses.

Possibly not the highlight of the collection, nevertheless it's well put together, and if you really want to occupy your time with the ultimate in futility, it can't be beat.

Next Stepz. This is a simple strategy game that involves you guiding a counter through an eight by eight grid. Movement is achieved by clicking on directional control icons alongside the game board – a simple enough process perhaps, but as always there's a hitch.

The problems are provided by numerous arrows which occupy random squares on the game grid. These are kind enough to point in the direction in which they are about to move. This they do whenever you make a move, taking up their new board position and thus indicating their next destination square.

All you have to do is avoid a collision and make it to the top of the screen.

Simple! That's the trouble, it is. Even on the most difficult level the game is still rather easy and the only real difficulty is staying awake while you're playing it.

The arrows appear to move around completely at random. As a result there's no conspiracy against you, making it a relatively simple task to beat them to the top of the screen.

The number of arrows increases with the difficulty level. Unfortunately their intelligence doesn't.

Where it all began

Amoeba Invaders, or for those of you with very long memories and perhaps very old Atari consoles it's Space Invaders under yet a new guise.

Hard to believe that it's 13 years since the first version of the mother of all computer games reared its ugly head.

The gameplay is just like the original with the odd, dare I say, improvement such as a score that doesn't clock out at 10,000 and a pause button. What will they think of next?

Thankfully, the author hasn't been tempted by the dangling carrot of technical advance and has done a fine job of replicating the original. A real golden oldie

Useful Utilities • Useful Utilities • Useful Utilities • Useful Utilities • Useful Utilities

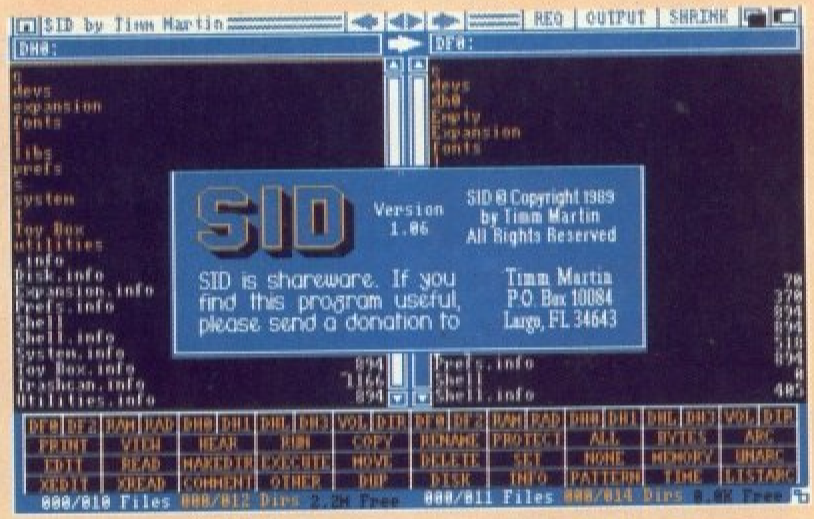
AUGKC – yes folks, you've yet another acronym to remember. This one stands for the Amiga Users Group of Kansas City, and not surprisingly they decided to cut it down a bit.

So what have the good old boys across the pond been up to? Between the burgers and the Budweiser they've been hard at it putting together a series of disks that every Limey learner will be lost without.

The first of the three disk collection contains the essential SID, probably the best directory utility available for the Amiga and a must in anyone's disk box.

If you're less than comfortable with CLI, SID can make life infinitely easier transforming most CLI operations into a click on the mouse.

As part of disk one we also have PKAzip. This is a friendly menu driven archiving/unarchiving utility,



Timm Martin's excellent utility

which will no doubt become indispensable if you graduate to the world of comms.

The next util on offer is Ashell, a replacement CLI or Shell. Basically, Ashell is a straight swap for either and still remains completely compatible with AmigaDos. It is more flexible, and uses less disk space.

Dream disk

Disk two of the series is the answer to many a beginner's dreams. If you're about to become a comms convert Access has been added to the disk, making entry into this rather confusing area of computing a good deal more straightforward.

Also incorporated are some useful text docs which lend a helping hand in tricky areas like arc files, uploads and downloads.

In the 'c' directory of the disk you'll find some handy utils which can be run from CLI or perhaps the all new and improved Ashell. These do various tricky tasks, graphics conversion, formatting faulty disks and so on.

One of the real stars of the series has to be the excellent CLI HELP. If you don't happen to be the owner of a good book on AmigaDos the CLI can be a tricky subject. Fret no more, your prayers have been answered and your wallet can breathe a sigh of relief.

As if that's not enough there's a whole range of famous names from the utility world.

DiskX - A tried and tested disk editor that allows you to view and

and ideal for reminiscing on a wasted youth.

Next we have yet another old favourite from the rapidly crowding coffee table – Othello, probably one of the most addictive strategy games available.

This particular version displays the board in a reasonably large Workbench window. The graphics are OK and the game itself plays perfectly, but there is a slight problem. The thinking time of your computer opponent is painfully slow, seriously hindering the flow of play, turning a really interesting game into something of a chore.

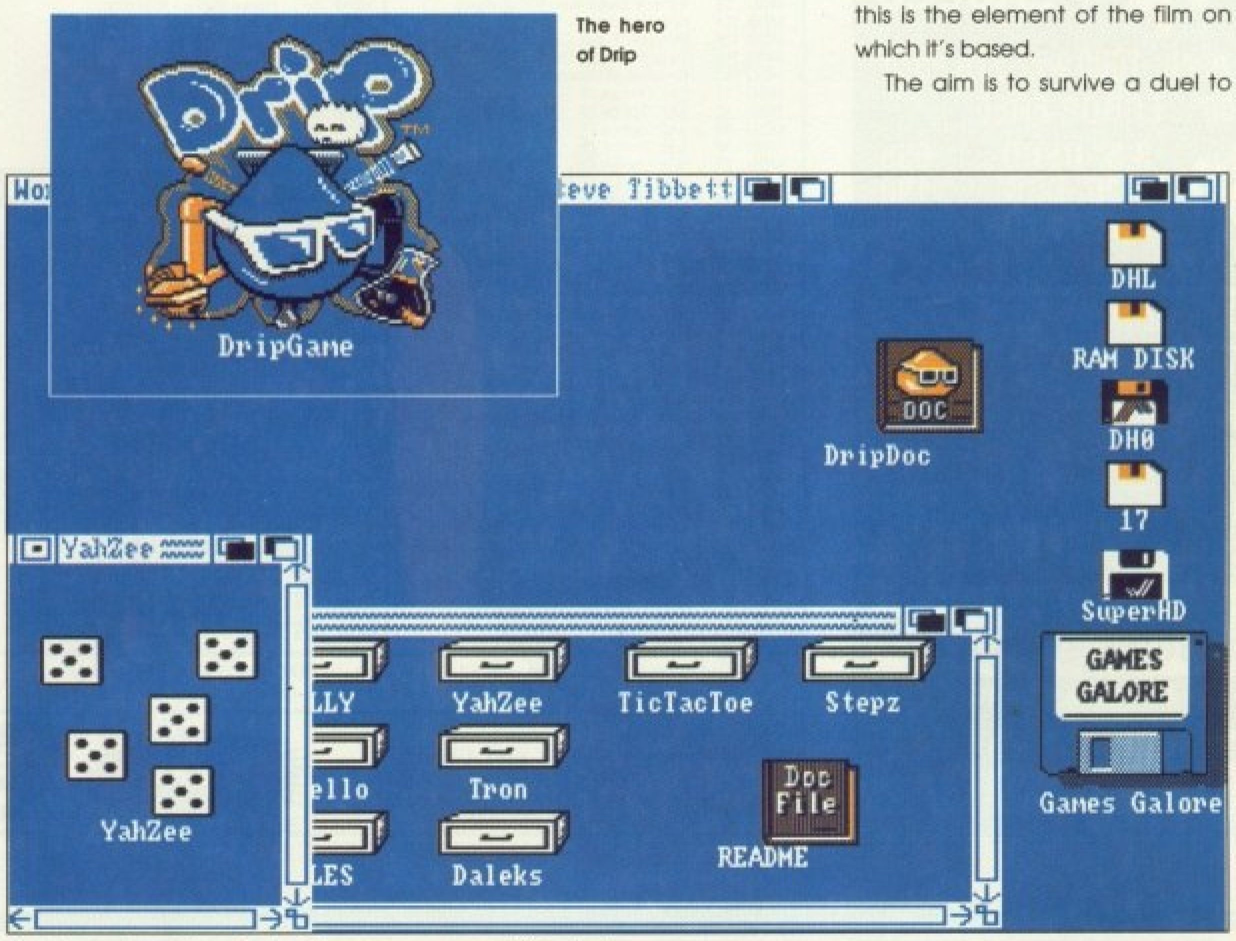
But *Amiga Computing* readers don't have this problem. Our December coverdisk featured an excellent version of Othello boasting a computer opponent which should be fast enough and good enough for anyone.

Yet another familiar word from the cinema world: Tron. This is the title of our next glorious offering. It could perhaps have been more accurately called Light Cycles, as this is the element of the film on which it's based.

The aim is to survive a duel to the death involving several computer opponents riding hi-tech Harleys.

The game grid is shown from directly above, in fact from a long way above, making the competitors appear as simple coloured lines, ever extending in the quest to trap the opposition.

Obstacles are liberally strewn around the playing area adding yet more difficulty to the already tricky task of survival.



The hero of Drip

Another version of the classic Chinese game comes to the Amiga

Thinking man's corner

The next game on this seemingly endless list is Chess V-2. Chess is one of the firm favourites in the computer conversion stakes and this particular version is quite a reasonable example.

A good deal of fairly advanced features have been packed into a very small space, creating a neat package capable of providing a fair challenge for seasoned players.

The skill level is altered by changing the amount of thinking time you allow your computer opponent.

Unfortunately, the game doesn't deal in nano seconds so I got thoroughly thrashed on a regular basis.

Tiles is another unusual piece of software in these days of the ninja mutant thump-'em-up. This is very

Useful Utilities • Useful Utilities • Useful Utilities • Useful Utilities • Useful Utilities

edit disk sectors – very useful if you have an error on a disk. A bootsave is also available and works in conjunction with DiskX.

Disksalv1132 - A handy utility which will save any recoverable files from a damaged disk and save them to another, whether standard or fast file format.

Iconmaster - The best icon editor/creator/changer available. Perfect for customising or creating any Workbench program icon.

LHWarp1.03 - Capable of condensing an entire disk into one large file. Useful if you want to share your genius via BBSs.

Documents giving full instructions are included in the drawer, as they are with all the programs mentioned.

PowerPacker - Not the latest version of course, nevertheless it's still a wonderfully useful utility capable of crunching programs down to a fraction of their original size. The programs still load perfectly. PowerPacker in its various forms is used widely to achieve the impossible and literally force a quart into a pint pot.

Sound - A neat utility which will play any sample.

Showanim4.5 - An animation player to display sequences from sculpt and various raytraced animation sequences.

The icing on the cake

Also in the AUGKC trilogy are some little extras you may find useful.

First on the list comes Amidex, a simple phone and address database ideal for mailing lists and other such glamorous pastimes.

BanknV14 is a compact chequebook program to keep an eye on your assets. Try to control your excitement. Seriously folks it's quite handy to have and boasts some nice touches like designing your own reports.Things start to take a decided turn for the better with Dirmaster a great disk cataloguing program, which may sound about as interesting as yesterdays breakfast, but in fact is really useful.

It's amazing how soon you can find yourself sinking under a sea of floppies and not knowing what's on any of them. Dirmaster is great for such desperate moments, and can save you hours of stumbling blindly through your disk collection.

In these dangerous days of viral infection a boot-block is in something of a dangerous position. Fortunately Safeboot comes to the rescue providing a safeguard against even the most determined of digital destroyers.

It can even save commercial software from disaster by copying all your boot-blocks to a separate disk.

If the unthinkable happens and your favourite piece of software gets sick all can be saved by simply copying back the boot-block. Wonderful!

Also lurking on disk three we have a wide selection of docs from disk one plus various text files added to help give some guidance on unpacking files. Something you'll no doubt come across when downloading from BBSs.

You could become completely addicted using programs such as SID and will feel completely naked without it.

Unfortunately, the British subscribers to Timm Martin's Utility can be counted on the fingers of one foot, so do the decent thing and cough up some cash.

The collection is available through Comp-U-Save, on disks P1249 to P1251.

Details from PJ Graham, Comp-U-Save, P.O.Box 157, Hayes, UB3 4SR, Middlesex

sedate software, the aim of which is to remove matching tiles from the pyramid that they make up.

This is done by clicking on identical pieces lying at the outer edge of any level of the pyramid. I know it sounds about as interesting as watching formation flower arranging, but it honestly is really rather good.

Hidden within the rather tedious exterior lies a great deal of depth, requiring a high degree of concentration. Well worth having in the collection.

Exterminate!

Finally we have one of the old guard of computer games, Daleks. With no sound, awful graphics and the most basic movement of the characters, it's hard to see what it's got going for it, but for some strange reason it has always been popular and no doubt always will be.

It has to seen to be believed, but be warned. Addicts do say it should carry the message: "Daleks really screws you up", so be careful.

Well folks there you go, not bad for one disk, and only £2. Please remember some of the games may be rather old, but if you do become addicted spare a thought and a few pounds, for the authors.

A little light relief

If the seemingly endless dull days of the English spring are starting to get you down, an occasional laugh will doubtless be in order.

Believe it or not there's even PD to drag you from the pit of depression. One of the best ways to raise a smile is loading up one of the numerous Workbench hacks.

For anyone unfamiliar with this rather strange form of software, hacks can do all kinds of weird and wonderful things to your front end.

These strange effects can vary from windows that run away as you try to close them, through rockets which relentlessly chase your pointer until the unavoidable collision, to tiny, ravenous cannibals who charge around the screen eating everything in sight – windows, disks, the lot.

There are a few examples on this month's coverdisk, but if you're hooked you can get more of the same from Seventeen Bit – #749 and #780. Both disks are bulging with bizarre varieties of the best hacks available.

If that's not enough for you wild-eyed fun seekers, there's more. Are you a fully paid up member of The Son's of the Desert? Those who are will obviously know that this is the name of the Laurel and Hardy fan club.

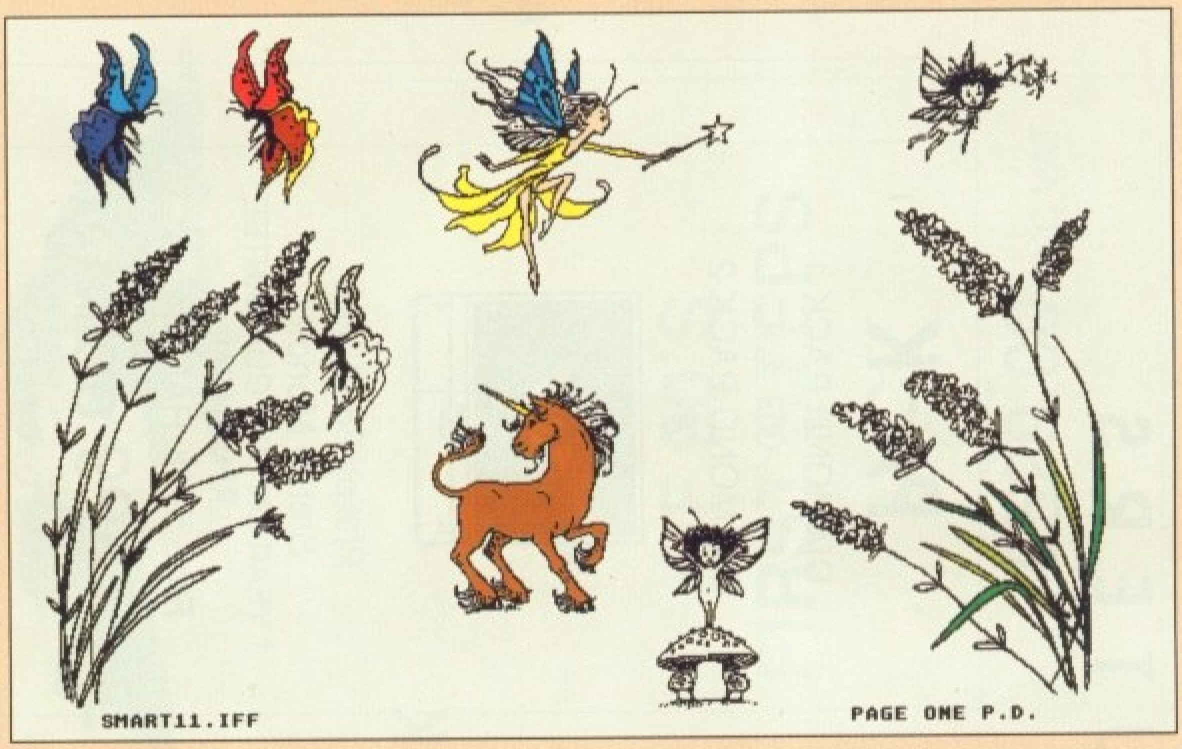
Public Dominator can furnish you with a slide show of some of their classic moments, all squashed into two floppies.

The disks are nicely put together with the immortal Stan and Ollie digitised from the original black and white flicks. Each screen is linked together to form some of those familiar sequences from the great days of Hollywood.

If you're a fan of more up-to-date comedy Comp-U-Save can supply the latest Simpson's samples from the States. The disk contains eight memorable moments from the foul-mouthed family on the other side of the Atlantic.

That's about it for this month. If you have any axes to grind or opinions about the world of PD, drop me a line and I'll try to incorporate any ideas into the column.

Clip art for the lads



Flowers, faries...

A rather large hole in the software market is about to be plugged by Page One Public Domain of Newcastle. Clip art has been rather thin on the ground in the past, but the lads at Page One are about to put a stop to that with an impressive new collection.

For those of you none to familiar with the field, clip art is simply artwork done by people who can, for people who can't. The pages containing the various clips are all standard IFF and as a result can be loaded into any paint package at any resolution you require.

All the drawings are plain black and white, so that once they're loaded up you can go mad, stretching, colouring, flipping. It's wonderful, you can go from talentless to genius overnight, as long as you don't tell anyone of course.

If you're a DTP person or graphics nut they're a must, lending themselves to all kinds of applications: magazines, letters, education, notices, the list goes on.

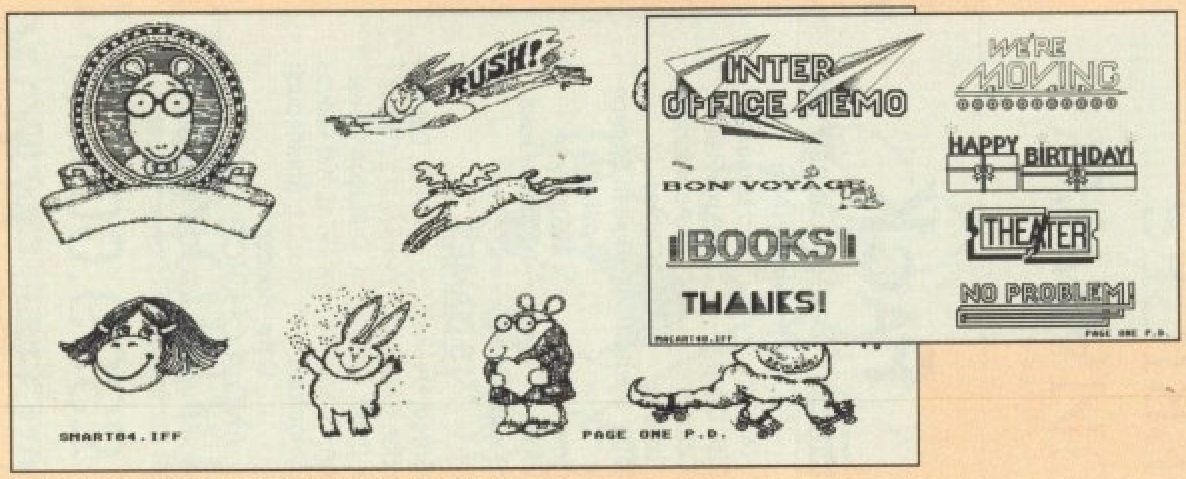
The range of subject matter is considerable including office, food, sport, household items and a whole range of cartoon characters including some famous faces from the Beano, Garfield and of course Viz.

The disks are available for £3 a time, or five for £10. The full collection runs to 16 disks, with no doubt more on the way.

Each disk contains approximately 20 pages with 12 separate drawings on each page, enough to keep anyone happy for a while at least.

I'll keep you in touch with any new developments from the boys at Page One PD.

Page One Public Domain, 46 Hillport Avenue, Porthill, Newcastle, Staffs, ST5 8JZ



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Digital

When Philips invented the compact disc back in the 1970s there were few home computers around. Those that were only had a few kilobytes of memory and stored their programs on data cassettes – another Philips invention originally designed for music.

Soon disk drives were added, giving on-line access to more than 150K at one go – double that if you turned the disk over.

The average Amiga owner now has two disk drives, each with 880K storage, and a megabyte of memory compared to the original 64K. Some will have the A590 hard disk, with 20Mb of on-line storage.

But things are changing all the time. The once vast 20Mb hard disks are now often regarded as too small.

New applications are becoming available every day, many of them next to useless without a hard disk. So running out of hard disk space is starting to be a problem.

CDs can store a huge amount of data, so it wasn't long before someone realised that it would be rather clever to link one up to a computer.

Although mostly read-only they can pack more than 600Mb on one disc – and that's an awful lot of storage.

You may have read recently about the Commodore CDTV, which is essentially an Amiga 500 without a keyboard or disk drive, bolted on to a CD-ROM player.

It's planned mainly as a games machine, and although you will be able to attach disk drives and keyboards to it, most people probably won't do so.



The Amiga playing an Audio CD

Stealing the show

Commodore are planning an add-on for real Amigas to play CD-ROM discs, but Xetec, a US Amiga hard disk supplier, have beaten them to it with their CDX-550/650 drives for the Amiga.

The CDX-550 is an internal drive for the 1500 and 2000, and the CDX-650 is an external drive for any Amiga model. The model reviewed was the CDX-650, which comes in an external case that fits neatly between the monitor and system unit on the Amiga 3000.

You must have a SCSI controller card to use the CD-ROM . This is not included in the cost, but if you've got an A590 hard disk the 25-pin female port on the back is all you require.

Most hard disks for the Amiga 2000 come with SCSI controllers that the drive can support, while the Amiga 3000 has a built-in SCSI controller.

The drive mechanism is a standard Chinon CD-ROM. There is nothing specific for the Amiga in the hardware – I've plugged a standard PC CD-ROM into the Amiga and the software was able to use it.

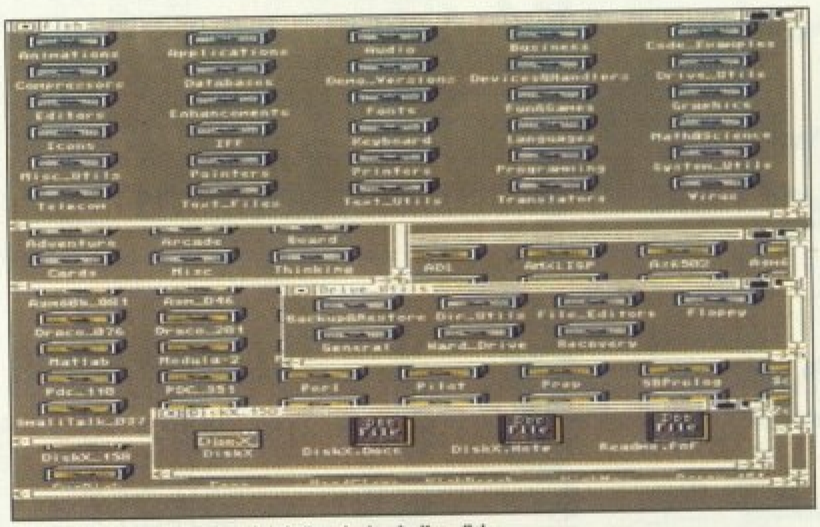
I also plugged the Xetec CD-ROM into a PC, and that worked too.

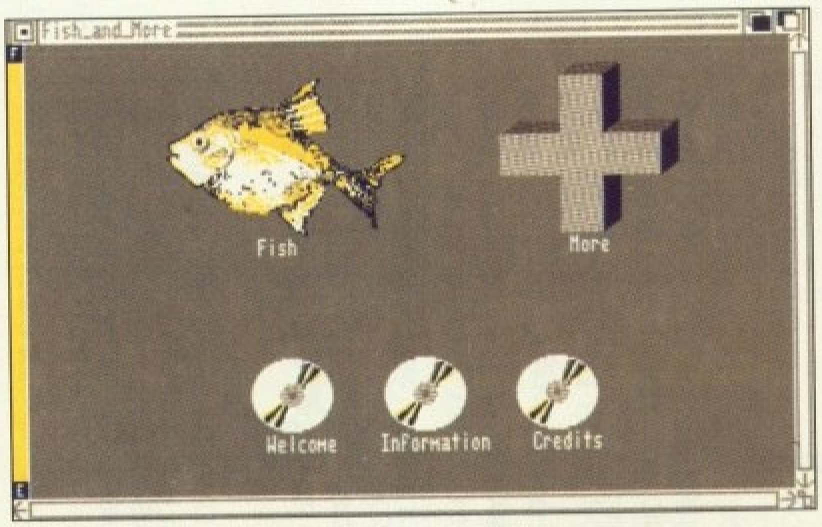
The setup software specifically supports the following SCSI controllers: Amiga 3000, C-Ltd (SCSI-DOS 3), Commodore 2090A and 2091, GVP (With or without the Faaastrom), IVS Trumpcard and Trumpcard Professional, Supra Wordsync controller, and all Xetec controllers.

I've also got it working quite happily with the Microbotics Hardframe controller in my B2000, and it performs on the Amiga 590 as well.

Setting up is simple. If you've got a card or machine listed in the menu, you just choose your card and click on the UPDATE gadget, which installs everything for you.

If your controller is not listed, the chances are that it will still work, but you will have to enter the


Just some of the thousands of directories in the disk



The main directory of the Fish disk

CDs you can write to

By its very nature the CD-ROM is read-only. If you want something that can read and write there are three options.

The first and cheapest is the WORM drive – Write Once Read Many. These take disk cartridges which are about the same size as the CD-ROM, and can be written to by an Amiga.

The disadvantage is that you cannot record over a part of the disk that has already been written to, though with 600Mb this isn't much of a problem. Cost: £1,500 to £2,000.

Option two is the Magneto-Optical drive. This is a full read/write disk, so you can erase unwanted files and record over them. It isn't compatible with CD-ROM and it costs between £2,500 and £3,000.

Lastly comes the recordable CD-ROM. It can read normal CD-ROM discs and write to blank CD-ROM ones, which are Write Once Read Many.

Once these disks have been written to they can be read by a conventional CD-ROM drive. The cost? A bargain at a mere £20,000. However, don't expect this sort of technology to be available at a realistic price for at least five years.



dreams

Will CD-ROM ever be a realistic option? Jolyon Ralph investigates

How can a CD store so much information?

CDs store information digitally, so they are is ideal for computer data storage. Music is recirded at 44KHz in stereo 16-bit samples, and about 70 minutes' play can be packed on one disc.

Anyone who has tried sampling in 8-bit mono on the Amiga at under 20KHz knows that you can't fit much into one meg of memory.

parameters it needs manually – the device name of your scsi.device for example.

Once installed, you MOUNT CD0: and you're away. Each CDX drive is supplied with the Fish and More CD-ROM. This disc contains more than 510Mb of public domain software, including everything from Fish disks 1 to 360.

Buying these disks separately costs more than the drive plus disc, and the Fish programs fill only about two-thirds of the disk. Another 200Mb of PD on the disc that are not from the Fish disks includes some massive animation files.

Loadsa goodies

There is far too much on the disc to list here, but the screenshots may give you some idea of the contents. The CD case claims the disk contains 70 animations, 720 pictures, 700 icons, 450 sounds, 280 songs, 600 instruments, 180 games, 1,700 applications/utilities, 7,500 source files, 35 commercial demos and 48 programming languages.

Everything has been set up for easy use from Workbench. All files have been sifted out from the Fish disks and grouped into categories.

An example of the amount of space you have to play with is the read-me file. Instead of coming up with a usual text file, they have put a massive digitised sample of Marty Flickinger, the Xetec programmer who wrote the CD-ROM software, introducing the disc.

Although the Fish and More disc contains more than 500Mb of public domain software, you're going to get bored with it eventually, so what other discs are available?

For the Amiga, not a lot. There are thousands of discs for the IBM and Apple Macintosh,and this drive will read them. I tried a disc that came free on a computer magazine last year, and it displayed all its files.

Obviously they could not run because they were for the IBM, but I was able to access most of the graphic files with Amiga viewers that handle Macintosh and PC graphic formats.

If you have a bridgeboard you can access the CD-ROM and access a vast array of PC software. The magazine *PC-Today* is selling a CD-ROM disc full of PC compatible public domain/shareware for £24.99.

CD island discs

What about music CDs? Yes the Xetec drive can play them. It comes up with a rather neat screen that looks like a CD player. You click on the buttons to play tracks, skip to the next track, even eject the disc, which is done automatically.

This software didn't work very well on the Amiga 3000. I'm not sure whether this means the same will apply to any Amiga. It's still usable, but you don't get the right display on screen unless you quit the program and load it again while the CD is playing.

There is a line-out on the back of the case – the sort you get on portable CD players – headphone sockets on the front of the drive, and a volume control.

I found the volume levels through the headphone socket were hardly loud enough to enable me to sample from the CD.

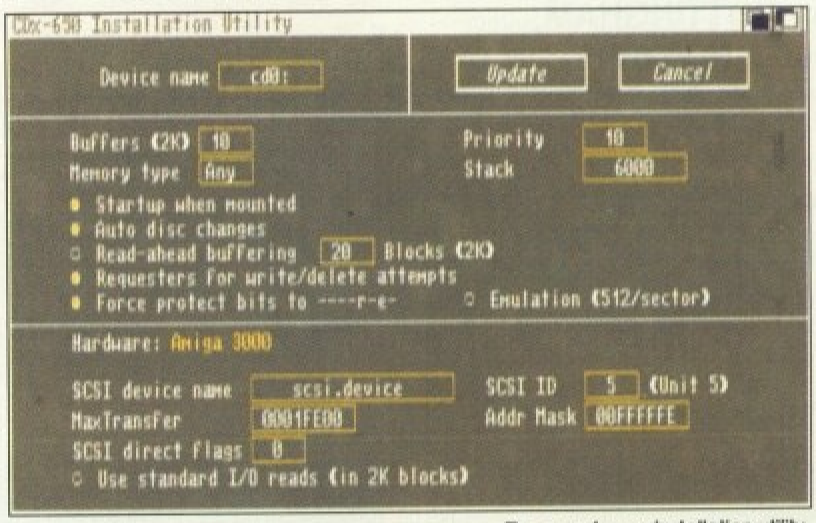
Before you start getting clever ideas, you can't steal 16-bit sample data from music CDs into memory. The drive prevents you from reading digital data straight from the disc down the SCSI port.

The only problem with the drive is that CD-ROMs are slow. They have an average 800ms seek time, which is 10 times slower than the slowest hard disks. It is faster than floppy most of the time and can transfer about 150K/sec.

Having said that, the disk has been optimised well, so that icons appear quickly – except under Kickstart 2.0 for some reason, where it really slows down.

The drive is not yet available in the UK, but Xetec in the States will supply it direct to the UK.

Remember that you will have to pay at the door for customs duty and VAT. This came to about £60 for the external drive.



The easy to use installation utility

How much does the CD store?

A 16-bit sample takes up two bytes, and stereo calls for two samples – one for the left channel and another for the right. If we multiply the sampling frequency (44KHz) by four you get the amount of memory needed to store one second of CD quality sound. It works out at about 172K.

Multiply that by the number of seconds in 70 minutes (70 x 60) and you end up with just over 700Mb. Some of this is lost in formatting – in the same way that a one megabyte disk only gives 880K on the Amiga – so you are left with about 600Mb of storage to play with.

Xetec CDX-550/650 CD-ROM for the Amiga.
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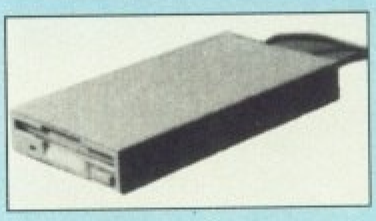
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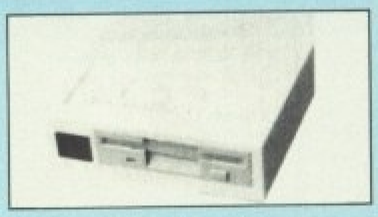
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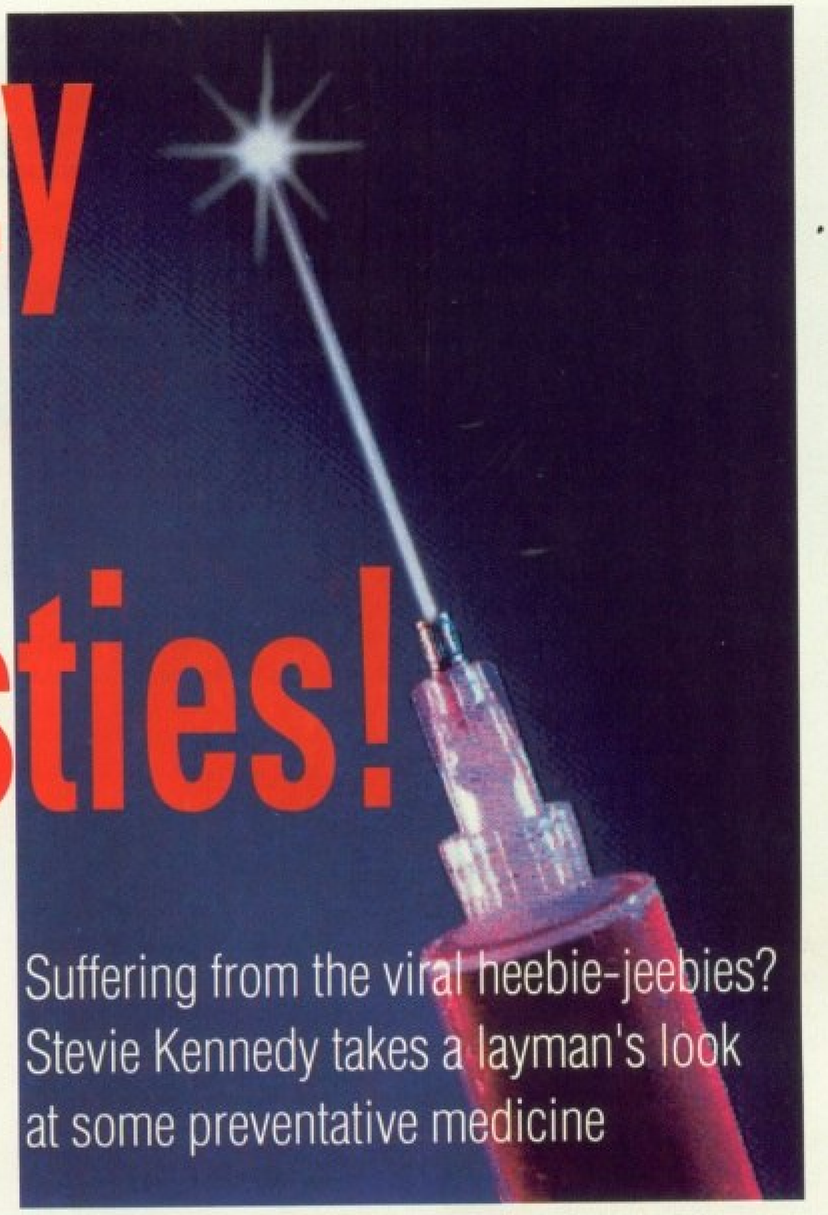
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Nasty wee beasties!



Suffering from the viral heebie-jeebies? Stevie Kennedy takes a layman's look at some preventative medicine

Viruses are the scourge of the Amiga world. From only a few boot-block ones a couple of years ago, the list of contagious codings had grown at an epidemic rate, threatening to outstrip the efforts of all but the best virus killers.

Can you protect your disks from infection when all about you are dosing theirs?

A great many people have little or no idea what viruses are or, more alarmingly, how they spread. This ignorance of even the simplest protection techniques has led to many a treasured disk turning up its toes and shuffling off this mortal coil (less of the Python rip-offs - Ed). Read on if you're anxious to avoid the same happening to you.

Viruses come in many forms, but all have one thing in common. A true computer virus will seek to transfer itself from its present location to a new target area, and once there it will invariably attempt to cause the user a great deal of concern.

It may do this by trashing files, reformatting your hard drive or simply printing a silly message to the screen, but the one constant in all this is that your trousers are immediately placed in extreme jeopardy!

Bootus vulgaris

The most common type is the boot-block virus and these exist, ironically enough, because of an 'extra' Amiga feature. The standard boot-block occupies the first two blocks of storage on a floppy disk.

However, the information needed to identify the disk as an AmigaDOS format floppy is a tiny piece of code which leaves a few hundred bytes of free space in the boot-block.

The space is available to programmers, many of whom use it to display scrolling messages, tunes, or pictures. Unfortunately it also represents a haven for viruses and it was here that the early examples, such as Byte Bandit, first lurked in ambush.

Some write to your drives, corrupting program files. The original Lamer virus, for example, writes the word LAMER! into a random selection of blocks.

Others are time bombs that wait for a set of conditions to be met before going off. The infamous lame duck DataCrime Friday 13th virus was one such example, although not an Amiga variant.

Because they always initially inhabit the same place boot-block viruses are relatively easy to deal with. Even if you do not have a virus killer, you can carry out a simple test by using INSTALL <DRIVE> CHECK. If there is a non-standard boot-block where all should be normal, you can INSTALL the guilty disk.

Cunning swine!

The second category can be broadly labelled as file or link viruses, and they're an altogether trickier breed. They include the true file viruses and those known as Trojan horses.

File viruses such as BGS9, attach themselves to files in memory and on disk, and sometimes the only

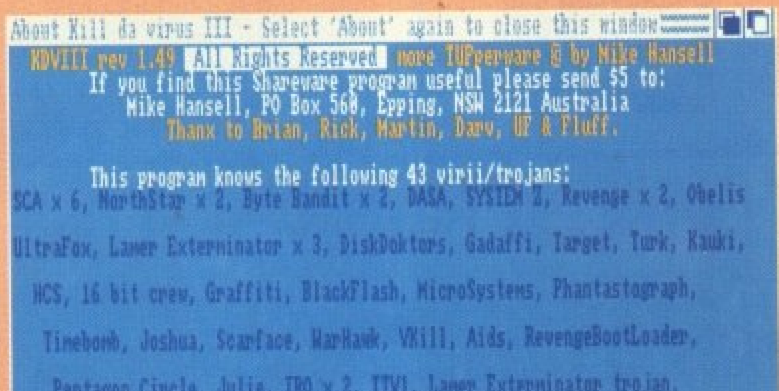
Kill da Virus III by Mike Hansel

You'll find this one on your March cover disk complete with full details for installing it in your start-up-sequence on the disk pages.

KDVIII is the latest shareware version of a program, which has since gone commercial in the shape of KDV 5. It recognises a total of 43 viruses including Trojan horses such as the non-boot Lamer Exterminator strain.

It is more versatile than VirusX in that it checks for memory and file viruses, and does so for all disks, including any new ones. It also has options for saving unrecognisable boot-blocks to disk and for installing any floppy.

Even better, KDVIII will check memory every 30 seconds for the tell-tale signs that a file virus is on the loose and will warn you if anything is detected. A worthy alternative to the old soldier, VirusX.



KillVirus (KV)
by Dan J James

This is the program which was bundled with VirusX 3.2 and all further revisions in an attempt to plug the gaps.

KV is a smart little program which runs only from CLI and will look for intruders in memory on boot-up.

It will search for file viruses and remove them if possible, but cannot search entire disks on request and can sometimes wipe system files if you have protected your disk with another virus protector.

This was a good stop-gap device, but is no longer a viable modern protector. If you use KV, it's much better than nothing, but I'd advise you to find an alternative.

way of detecting them is to keep a check on the length of the files most commonly attacked. They are much harder to spot because they do not reside on boot-blocks, but can be just as destructive as those that do.

Trojan horses disguise themselves as harmless programs, utilities, and sometimes even as virus killers. They are the fifth columnists of the virus world and are particularly galling because of the way they can fool you. Remember, if you invite a vampire into your house, you are rendered powerless against it.

The recent so-called AIDS virus is of this type. Users thought they were going to be given information of the real life HIV virus, but when they tried to use their free disks they were informed of their mistake and presented with a demand for $378. The virus wiped hard drives after 90 system resets unless cured by the cash donation.

A similar type is that known as the invisible file virus. This will attack a specific file, usually the first command it comes across in your startup-sequence, and replace it with its own code. Some of them even try to match their size to that of the original file to make detection even harder!.



The BGS9 virus, for example, copies the first command in your startup-sequence to a hidden file in the DEVS: drawer, then replaces the original with a copy of itself.

Computerised vaccines?

You MUST protect yourself from viruses. If you don't, and you lose valuable data or programs, you have only yourself to blame. Viruses are a major threat to your system's well-being, but there are several straightforward measures you can take that should minimise the danger.

First of all, stop swapping disks with your mates! Like their real counterparts, computer viruses spread by contact, so if you resist the temptation of swapping programs you will avoid the risks attendant in piratical promiscuity.

If, on the other hand, you swap commercial software and your games collection is Lamered out of existence by a rampant virus, you really don't deserve any better. You have been warned.

Secondly, keep all disks, including data ones, write protected until you need to save data to them – viruses aren't half as annoying if they can't do any permanent damage.

Should one get into memory, it

VScan 4.98c
by Arthur Hagen Johan

This has been recommended to us for all hard drive users. With 67 boot-block and seven file viruses, it isn't as knowledgable as ZeroVirus or MVK, but it offers several useful features and is supposedly being updated to more than 100 strains.

The program has a protect mode to keep file viruses off your hard drives, checks them for both viruses and read/write errors, and has an analyse mode for unknown viruses found on them.

It runs on the same brainfile principle as ZeroVirus, so you can expand its dictionary of recognised viruses as you find them.





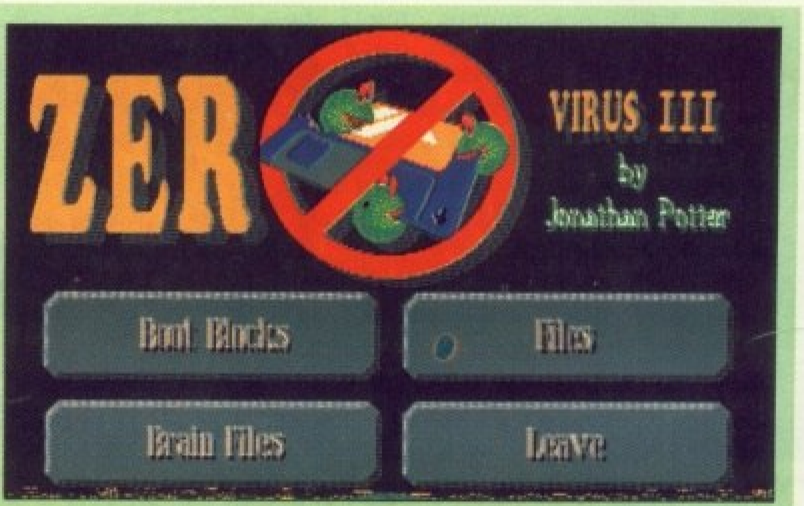
Virus X by Steve Tibbett

This has to be the best known and most popular of all virus killers, and has enjoyed a reputation as one of the best around for some time. The latest version is 4.01, although there are a few unofficial versions around – such as 4.4 – which should be avoided.

VirusX can be run from Workbench or CLI and will quite happily operate from your startup-sequence. The program recognises all the most common boot-block viruses and spots all non-standard boot-blocks, but is relatively out-dated as far as file viruses go.

As it is also non-dynamic - it can't learn new viruses and has to be rewritten and recompiled every time it is updated – it has been overtaken by the rapid development of new diseases.





ZeroVirus III by Jonathan Potter

For both beginners and the more technically minded, ZeroVirus is a good bet.

The beginner will be glad of the chance to use an intuition based virus killer with menus and icons, while the seasoned user will welcome the features offered by its learning capabilities.

ZeroVirus works on the brainfile principle. In other words, it has a data file of recognised viruses to which the user can add any new ones found on a disk. The latest version, 1.12, currently kills 86 boot-block viruses, but only four of the file vermin including IRQ and BGS9.

However, with the ability to learn as many boot-block viruses as it likes, a hard disk check for file viruses, the option to run from startup and in background, and several file check and boot-block install options, ZeroVirus must be one of the best and friendliest killers around.

can still wreak havoc with RAM disks or memory-resident data files, but if it is unable to procreate onto disk it can be eradicated by switching off the computer before it does any further damage.

Last, but most important of all, you can get yourself a decent virus killing program and use it constantly. Most such pest controllers can be run from the startup-sequence so they get to work as soon as you boot-up. They usually have the ability to continue checking all subsequent disks you put in your drives.

Ideally you want to get hold of one which checks memory, files and boot-blocks, and which recognises an up-to-date list of viruses.

However, there are so many virus killers around these days, you may be a little spoiled for choice. Which is the King of the Killers?

The contenders

When looking for a virus killer the three criteria by which you can choose are:

- How many viruses are recognised?
- Does the program check for memory and file viruses?
- Is it updated regularly?

The latter two are the most important criteria, because a boot-block virus will always be spotted as a non-standard boot-block, but many file viruses have to be thoroughly rooted out. According to Erik 'Speedy Gonzales' Lovendahl, one of the most knowledgable virus experts in the Amiga field, no less than four new file viruses appeared in December alone.

One of the latest and nastiest of these is Xeno, which was designed with hard drives in mind and can cause irrepairable damage.

Vending machines

If you think you're at risk from one of the horrible viruses I've mentioned, and wish to protect yourself by using one of the killers listed above, you must by now be wondering where you can get hold of one.

All the virus killers I've covered are either public domain or shareware, and most are readily available.

PD Houses

There isn't the space available to mention all the PD libraries, but Master Virus Killer can be found on Softville PD's Virus Killers compilation disk (0705 266509), PDOM disk number 300 (0279 757692), or Seventeen Bit's disk 804 (0924 366982).

ZeroVirusIII comes on JTS PD's catalogue disk (0937 63834) and is on a number other libraries' compilation disks. VirusX is available from almost any source and KDVIII is on your coverdisk.

VScan is available from the programmer:

Arthur Hagen Johan
Scharffensbergsvej 99, apt 56
N-0694
Oslo 6
Norway

The shareware price is $10 which goes to help children with rheumatism – sometimes called careware or charityware.

MasterVirusKiller by Xavier Leclerc

Another UK shareware killer. This one knows 105 viruses, including 15 file ones and is just about the best available as far as kill ratio is concerned.

Currently, it is also the only killer apart from ZeroVirusIII and VScan that can deal with the Xeno hard drive horror.

MVK will carry out a comprehensive file virus check and has the advantage of being run entirely by icons. Its downfall, however, is its quirkiness. It has a few bugs and tends to crash too often, but its biggest drawback is that it cannot multi-task.

If you want one of the most erudite killers, MVK is a must, but I wouldn't count on it for everyday use.

Speedy to the rescue!

Many thanks to Erik Lovendahl for his help, and for four years of dedicated virus research. If you have any new information on viruses, or have written a new killer, please contact us. You can also contact Speedy at:

Snaphanevej 10
4720 Praesto
Denmark
Tel. (010 45) 53 79 25 12

Erik is always eager for any new information and can offer some of the most expert advice you're likely to find on Amiga viruses.



Clarke spells it out

PUPILS will lose marks for spelling in all GCSE exams from summer, Education Secretary Ken Clarke ruled yesterday.

Sixteen-year-olds who make spelling mista subjects such as history, biology, phys geography, as well as English, could have per cent of their marks deducted.

The move was prompted by criticism from emplo parents that many pupils left school unable to spell simple words.

But it has angered examination boards and teachers, who say it is unfair to penalise children for poor spelling in tests designed to examine other skills such as knowing about the Battle of Hastings

By Educati

Guildford,

Pupils will lose marks for bad exam spelling

GCSE complain that bad ... embarrassment, liaise, independent, definite, occasion, devel- ... witch (for which), heredetary (hereditary), spontaineous, simalar, indipendent.

Alison Brace, Education Correspondent

PUPILS will lose marks in all exams for spelling errors in a new crackdown on slipshod standards in schools.

And teachers have been told to go back to school themselves if they cannot spell.

Education Secretary Kenneth Clarke has orderd examiners to mark down papers by up to five p cent for bad spelling.

It could mean the difference between pass and fail for youngsters.

Ministers were shocked st year when GCSE examiners said bad spelling s ignored in all but glish papers. A host of lies have since red a dramatic slump upils' ability to spell. ...ong words most misspelt are: missal- (miscellaneous); materially); ensiatic ...siastic); amitter ...ur) and imideate ...iate).

...day Mr Clarke immediate action, ...g examiners' ...at nothing could ...ntil next year. ...: "Everyone in ... of education ...e serious steps ... standards. ...lling is essen- ... communic- ... most make ...it is properly ...ubjects." ...pils will not ... the action. ...n, head of ...tional Assoc- ...ation of Teachers, said staff who could not spell should go on special

Daily Express Opinion

Spelling it...

IT is amazing that ar oppose the idea o docked for bad spe exams. Almost as a fact that examiners have ing them already. But which is why Education

Clarke to use parent power in classroom revolution

Barry Hugill
Education Correspondent

THE Government is preparing to launch a massive drive to involve parents in the classroom.

Kenneth Clarke, the Education Secretary, believes he has won the battle with his professional advisers and the examination boards over the importance of spelling. He is convinced that his announcement on Friday that spelling should be taken into account in the marking of GCSE papers will meet with widespread approval. Now he hopes to capitalise on this with a new 'parent power' campaign.

Millions of leaflets will next month be distributed to primary schools for pupils to take home. They will explain the national curriculum and tell parents that they have a crucial

Clarke has no power to force the examining boards to deduct marks for poor spelling, but is confident they will not defy him on this issue. For 30 years, the GCE — and now the GCSE — examining boards have refused to penalise poor spelling except in English exams.

But Ministers are worried that parents do not fully understand the extent of the shake-up taking place in schools. They admit that the technical language of the national curriculum and the regular tests soon to be introduced in schools is jargon-ridden and baffling to many parents and teachers.

Next month's leaflet to all primary school parents will be followed up in the summer with an explanatory pamphlet for the parents of seven year olds. Despite their belief in 'the basics', Ministers have ruled

HELP CHILDREN READ AT HOME, SAY MINISTERS ... DS BATTLE GOES ON

Parents taught a lesson

PARENTS must help reverse the decline in children's reading standards, education Ministers warned last night.

The lesson was spelled out as teachers prepared this year to carry out the first round of new reading tests for seven-year-olds

By LIZ LIGHTFOOT
Education Correspondent

schools which ask parents to go through books with their children in the classroom.

'Teachers have found pupils improve when they read wi their parents at home or ...aid.

reading' systems — where children are taught not to sound out words, but are expected to pick up reading by looking at story books. No school should use this 'odd' method alone, he said.

This newspaper investigated the method and found that in Croydon, South London, schools ... had thrown out their ... and refused to ... sound out

read. Now expert Dr Joyce Morris has compiled a checklist.

She suggests they ask questions like:

- How do you ensure children make a successful start?
- What is your main approach?
- What importance do you attach to phonic methods (emphasis on sounds)?
- Are children taught how the 26 alphabet letters represent the 44 speech sounds?

Meanwhile, The Mail on Sun... praised yesterday for ... to the slump ...

sloppy spelling tolerated by exam boards in an article based on research by teacher Mrs Jenny Chew.

On Friday Kenneth Clarke announced the results of an inquiry and ordered examiners to deduct up to five per cent of marks in all subjects for poor spelling.

Last night Mrs Chew called the decision 'wonderful news and common sense'.

Following our article the then Education Secretary John MacGregor ordered exam boards to take more note of spelling when awarding marks

5pc of marks to be cut for poor spelling

Stephen Bates
Education Editor

PUPILS will lose up to 5 per cent of their marks in GCSE examinations next summer if they spell incorrectly, according to guidelines put forward yesterday by Kenneth Clarke, the Education Secretary.

The minister rejected as inadequate proposals by the School Examinations and Assessment Council, the regulatory body, to tighten spelling standards. He said more must be done to ensure that spelling is taken into

quently to weaken candidates' ability to communicate their knowledge or understanding. He added that computer spellcheckers should not be allowed in examination rooms. "I am concerned at the decline in the standard of spelling amongst young people and I am anxious that everyone in the world of education should take seriou steps to improve those sta dards. We must make cert that spelling is properly teste at all levels and in all subjects."

Jack Straw, Labour's education spokesman, said the announcement was "a further admission of years of government

EDUCATION SECRETARY GETS TOUGH OVER FALLING SCHOOL STANDARDS

Bad spelling to cost pupils exam marks

CHILDREN must lose marks for bad spelling in all their GCSE exam subjects, the Government ruled yesterday.

Until now pupils have not

By IAN MACGREGOR Education Correspondent

Even in English, some boards have not tested candidates specifically on spelling in GCSEs or the old O-levels.

Mr Clarke criticised Government advisers who said it would

There is likely to be hostility to Mr Clarke's plan from the boards when they meet later this month.

John Edmundson ... to the Joint

such as history, science or economics."

"Communication is achieved by more than the writ... nowadays

Mounting alarm among parents about the appalling standards of spelling among Britain's schoolchildren has finally erupted. Now Government ministers and teachers have joined parents and employers in stressing the vital importance of spelling throughout the National Curriculum.

Parents themselves are being told THEY have a crucial role to play. Education experts want to mobilise 'parent power' – to put mums and dads in the front line of the attack on poor spelling.

Many of them will find they have a powerful ally. For today, most homes have what could be the ideal means of teaching spelling – the computer.

Instead of zapping aliens it could be turned into the best weapon of all to deal a body blow to bad spelling.

- **5 DIFFERENT TESTS**
- **OVER 5,000 WORDS**
- **FOR AGES 5 TO 15**

SPELL! is unique. It harnesses the power of the home computer and uses it in novel ways, showing that spelling can gain a child top marks at school . . . and that practising it can be lots of fun as well.

SPELL! lets children learn at their own pace. They can take as long as they like – or take on the computer in a high-speed challenge!

And this one package covers the whole of their time at school – with the lowest age group suitable for under-5s, while the more advanced words will stretch even the most able students.

It includes five different tests, each making use of more than 5,000 words – so much variety that they'll never get bored.

The programs are:

In a Flash: *Read the word as it flashes on the screen, then type it in. For practice runs, the word is left on the screen as it is typed.*

Rocket: *Hidden words have to be discovered in this hi-tech version of the old favourite Hangman. If they are guessed correctly the rocket will blast-off. Fail and all that's left is a load of scrap.*

Lunar Buggy: *Type fast for fun. The aim is to key in the word as it's pulled across the screen by the buggy. It has to be completed before the letters drop down a crater.*

All Mixed Up: *Jumbled letters have to be sorted out to find the scrambled word. To help beginners – and anyone else who is stuck – clues can be obtained at the press of a key.*

Conveyor Belt: *Words pass by on the screen and have to be remembered. Then they must be typed in – spelt correctly. This is a challenging test of both spelling and memory.*

In addition to using the 5,000 words provided, parents – or children – can create their own word lists for using with SPELL! This makes the package ideal for practising those hard-to-learn words, or for "Learn these spellings" homework.

All the programs have several options for extra flexibility – like a timer with on/off option to add that extra challenge.

How SPELL! meets teachers' requirements

The programs will test over 5,000 words, split into the categories which cause the most problems when learning to spell. These are:

- ***Vowel sounds.*** *Stressing the differences between* a, i, o *and* u *and how the combinations of* oo *and* ai *change the sound of words.*
- ***Consonant Blending.*** *Covering the changes caused when two or more consonants are put together in a word*
- ***Prefixes and Suffixes.*** *Showing how changes at the beginning and end of words can alter the meaning as well as the spelling.*
- ***Word Families.*** *Assessing how different words come from the same base word but then change in spelling and pronunciation.*
- ***Irregular spelling.*** *Covering the many peculiarities of the English language, such as* receipt, thorough, bough *and* thieves.

The words are graded for children between the ages of 5 and 15 and are based on National Curriculum required reading books as well as Ginn Reading 360 – the most commonly used reading scheme in the UK – and the 123 and Away reading scheme.

SPELL! only costs £8.95. It is now available on disc and tape for six of the most popular home computers and can be ordered on the form below.

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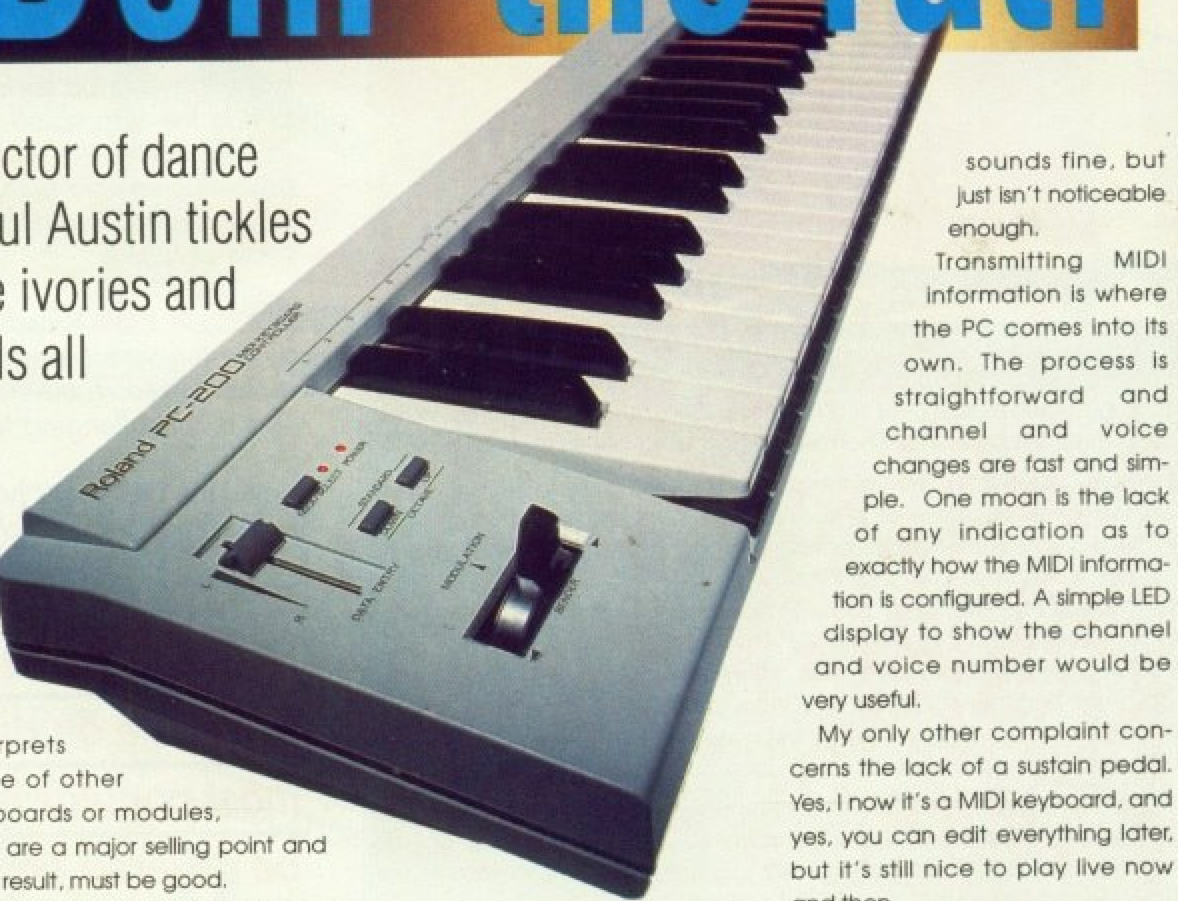
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Doin' the rat!

Doctor of dance Paul Austin tickles the ivories and tells all



This month we'll look into the heart of almost every MIDI system at the mother, or controller keyboard. Roland plans to 'play mother' with the PC-200, their latest release aimed firmly at the DTMS market.

The rather unattractive title of PC-200 will no doubt make Amiga owners cringe at the prospect of touching anything with the word PC on it. But don't despair, it's merely an oversight by Roland and has nothing to do with the device.

The keyboard is the familiar 49 key, moulded plastic design which dominates the budget market. It's constructed along similar lines to many a plastic piano, with a slightly higher spec than the average. Power is supplied by an adaptor or batteries.

Not surprisingly, the PC is very well equipped in the MIDI department, offering a wide variety of control options all available direct from the keyboard. Gaining access is a simple matter of hitting the MIDI select button followed by the desired channel or voice selection.

The feel of a control keyboard is just as important as any sound manipulating capabilities it may be blessed with. A synthesiser might be capable of literally hundreds of voices, but if they can't be produced with feeling from the keyboard, a huge amount of musical potential is lost.

Towards this admirable end Roland has incorporated volume sensitivity into the PC, giving it the ability to transmit MIDI information relative to the amount of pressure placed on the keys.

Link this with its ability to support full polyphony and you have the beginnings of a real corker of a keyboard.

Polyphony means that several notes can be played at the same time. In the case of the PC full polyphony is available – it is possible to play up to eight notes at any one time.

In the bad old days most synths could only manage four notes at best, seriously constricting the arrangement of a piece.

Both features should be considered as essential for any modern MIDI keyboard. The combination and quality of both make a massive difference to any keyboard.

In a master device which doesn't contain sounds of its own, but interprets those of other keyboards or modules, they are a major selling point and as a result, must be good.

Volume sensitivity is reasonable in the PC, if lacking in subtlety on occasion. Some voices produce stunning variations on a single voice but with others the difference between a firm and soft key stroke produces almost two notes from the same source – practically unrecognisable as the same voice!

It has to be said that the modulation lever – or bender as they're otherwise known – is not the PC's strongest point. To produce a believable bend of any sound it has to be smooth and subtle.

Unfortunately the PC modulation lever is neither of these, but rather produces something of a lumpy transition as the lever is actuated.

The modulation or vibrato effect sounds fine, but just isn't noticeable enough.

Transmitting MIDI information is where the PC comes into its own. The process is straightforward and channel and voice changes are fast and simple. One moan is the lack of any indication as to exactly how the MIDI information is configured. A simple LED display to show the channel and voice number would be very useful.

My only other complaint concerns the lack of a sustain pedal. Yes, I now it's a MIDI keyboard, and yes, you can edit everything later, but it's still nice to play live now and then

Even if you can't play yet you'll probably learn, and a sustain pedal is very useful when you do.

While on the subject of playing, if you want to learn but are put off by the prospect of piano lessons, most good music shops supply a wide range of 'learn to play' books which are generally very good. A few days, and you'll be playing triads like a master.

Octaves, pans and volumes

The default setting of the keyboard is from C2 to C6, but with a tap on the upper, lower buttons the range can be shifted up or down an octave. This is another good method for artificially extending the variety of available voices.

Another useful addition is the inclusion of a pan pot setting. Placing a voice using a pan pot allows you to determine where in the stereo image the sound will appear. For example, you could have a drum roll which would seem to start at one speaker and finish in the next.

Last but not least, there's the ability to set the volume of all the voices as they're recorded. This can slash post production time, making it possible to produce a rough mix as you work.

If you take a trip to a hi-tech music shop and ask for a mother keyboard, the eager assistant will fall over himself to show you full size, full travel instruments. They are basically cut down versions of grand pianos and cost anything up to £1,000 plus.

The PC isn't in this league, but at £175 it's not surprising. If you are not a pianist you probably won't notice the difference.

Basically, the PC does a great job at a very reasonable price. There are a few areas which could be improved, but asking for perfection at a bargain basement price is perhaps a little hopeful. Highly recommended.

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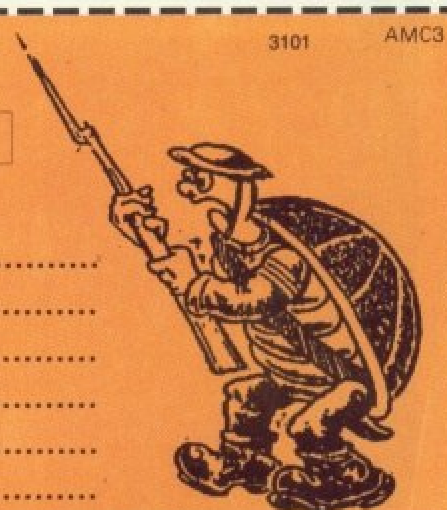
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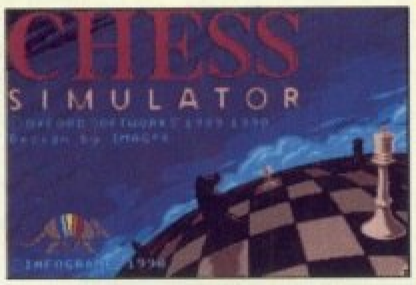
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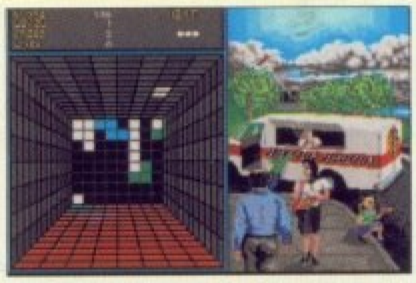
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Interactive Rescue

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Window woes

As a newcomer to the Amiga 500 scene, after upgrading from the BBC (yeuck! - Ed), I am somewhat confused as to a problem I have encountered whilst experimenting with Workbench 1.3.

I have noticed that after opening the Workbench window, then closing it again, the info at the top of the screen tells me I have less memory than I started off with. This also happens after closing other windows. Could you please enlighten me as to why this is?

Also, what is the difference between an Amiga with a red power light and an Amiga with a green power light?

Niall Ramsey, Ponteland

Every time you open a window or run any program, the Amiga utilises a certain amount of memory and this isn't always given back.

Workbench can be quite sloppy in this respect, and if you mess round enough the memory lost to the system can become quite crippling.

You can restore your Amiga to full capacity by warm rebooting or, if this seems a bit drastic, by using a utility to clean up RAM. There's an old one called CLEARMEM, which Softville PD assure me is on an early Fish disk.

The power light is a cosmetic feature, the colour of which has no bearing on the Amiga itself.

Second-hand blues

Just a few weeks ago I bought a second hand Amiga 500 and I must say it beats my old C64 (you don't say! - Ed). However, I think I have a slight problem. When I tried to use my A500 with an extra half-meg RAM card, all hell broke loose.

Suddenly, the keyboard refused to function and that little CapsLock light started flashing. After I'd removed the card, the antics continued until I'd switched the Amiga off and on several times.

After a few attempts, the light stopped flashing and the keyboard would work again and I have had no problems since (except I can't use my RAM card!). A friend of mine has an Amiga with 1.2 ROMs, mine is 1.3, and the card worked with his computer!

Could this be: Magic, hardware failure or something to do with different versions of ROM?

I would be very grateful if you could solve this mystery.

Ruud Van Gils, Holland

We're afraid we have bad news. There's no reason why a RAM card should behave differently on 1.2 and 1.3 machines as far as we are aware, and the problem certainly isn't magical.

Put simply, your Amiga is on the blink. Take it to a Commodore approved repair shop immediately and have it fixed. This might be a little expensive, but if you buy second-hand computer equipment it's a risk you have to take. Don't attach any more peripherals to the machine until it is repaired as you will also risk damaging your expensive add-ons.

Font of knowledge?

I have just purchased a Star LC24-200 printer. I am pleased with it, but there are a couple of questions that I should like to ask.

The spacing between lines seems to be 1.5. Is there any way of changing this? Also, I previously owned an LC10 printer and found the Courier NLQ Elite font attractive. Can the LC24-200 print this font?

D Yates, Braunton, North Devon

Line spacing is user-configurable both through the printer's dip switches and by software control in word processor packages and the like.

Page 60 in the LC24-200 user manual gives information on switch settings for the different line spacings. Other settings should be available depending on the software you are using.

The font button on the printer's front panel can be used to select Courier NLQ which should be similar to the LC10's font, and if this isn't good enough you can contact Star and ask about any font cartridges which may be available.

Getting wired up

Please could you give me some information about modems. I have just purchased an Amiga 500 and I am very interested in going on-line.

Firstly, I'm not exactly rolling in money, so could you recommend a reasonably cheap modem and details of any software I'll have to buy for it (or do they come complete with software?). Also I read your column on communications last month and would be interested in details of 'nets' which I can send and receive PD programs, and an idea of their subscription charges.

Keep up the excellent work. It's nice to read a mag that actually helps beginners without treating them as idiots!

Nigel Bates, Nuneaton, Warwickshire

The modem review in the next issue should give you something to chew on as far as choice of modems goes.

We will be concentrating on the faster, more expensive 2400 baud models, but you'll find the higher initial outlay is soon offset by the phone bill savings brought about through faster data transmission.

Software is no problem, as there are several good comms programs, such as NComm and JRComm, already in the public domain. These are available from PD libraries for less than £2.

If you need a beginner's guide to communications, keep an eye on Eddie McKendrick's Almanac column as he'll be looking at comms from your point of view in the next few months.

Lazy laser?

I desperately seek your help on a problem that I have encountered with my laser printer.

In the *Amiga Computing* of April 1990 you reviewed Pagesetter 2 and the article displayed a picture of a document which was made up of A4 pages. You stated that this had been done on a Star LaserPrinter 8II.

I have just purchased this machine and

have used Pagesetter 2 to create some A4 pages. However, I cannot print out a full page of A4 in HP emulation. Could you please tell me where I am going wrong?

The problem could be a shortage of memory (my machine has 3Mb and the printer 1Mb), the wrong printer driver (I have tried 14 HP Laserjet compatible drivers with no success), or incorrect printer settings (I have tried changing text length and margin settings).

Sorry to bother you, but I'm desperate for a solution. Thousands of pounds of equipment should be used to its full potential and seeing what it can do in the review without being able to do it for myself is killing me.

Owen Sanderson, Fulwell Mill, Sunderland

You seem to have covered most of the likely problem areas. It is unlikely to be a printer driver problem if you have tried over a dozen already, and you certainly have no shortage of RAM, so the fault lies either with your printer itself or with the software.

Star assure me that the LaserPrinter 8II is fully HP compatible, and their machines are normally very reliable. Check your user manual to ensure that there's no dip switch trickery involved in HP emulation, and if there is none, then the software must be the culprit.

Pagesetter 2 is not prone to problems of this sort, so you mustn't have covered all the possible text and page size settings. Remember that when you print an A4 page you will get less than a complete page of printing as all software leaves a certain gap top and bottom.

After all, the printer needs a bit of paper to hold onto, and you can't print on this! If you want to force the printer to completely cover the page, you must fool the software by using a custom page length.

Even this, however, will not allow 100% coverage, as an 'out of paper' signal will stop printing before the whole page goes past the print head.

Driven to distraction

I bought a Chinon drive at the Commodore Christmas Show in November to act as a second external drive – DF2.

Pleased with the price I paid, I rushed home and connected it up to my system (an A500, 1 meg, Star LC-10 printer, Soundtrap 3, and external drive) and because I'd read that the standard PSU is prone to glitches, I bought an upgraded PSU as well, then powered up.

My set-up would not recognise DF2. In fact it became very unhelpful with DF1 with which I had had no trouble before and gurus came out in force. I disconnected DF2 and the system operated sort of happily but with quite a few more gurus than usual, so I contacted the people who'd sold me the drive, Logic Sales in Baker Street, and they helpfully phoned Commodore.

The man at Commodore said the A500 was not built to accept more than one external drive! It was pointed out that nearly every PD stand at the show was running at least two drives to produce sale copies. "They must have adapted their machines then" was the reply.

It was pointed out that the official manual states on page 1-7 that you CAN attach up to two external drives and the mountlist of Workbench 1.3 contains a listing for DF2. "That's a mistake" was the reply.

The helpful man at Logic Sales rang back to say he'd connected up two external drives at the shop and they were working perfectly. I went there myself, hooked up my Chinon drive, and it also worked like a dream, but they replaced it anyway.

My system now works without problems, but I haven't risked attaching the new PSU again in case it was this which screwed things up to start with.

Rojer Weizman, Acton, London

This is a very confusing letter, Rojer! First of all, you seem a little confused about DF2. Is your Chinon drive a 5.25" or a 3.5"? We assume the latter. The DF2 entry in the mountlist is intended for a 5.25" drive, not a standard 3.5".

If you messed around trying to MOUNT the new drive or anything like that, and it's a 3.5", you would certainly have come across drive incompatibility problems. The A500 manual does say you can add two drives, and you should not encounter problems in doing so. To be fair to Commodore, however, you would be pushing the PSU to its limits, and this can bring up lots of gurus.

If, as you say, your machine is now happy with the second drive and you're using the old PSU, you may be tempted to leave well alone, but you should switch to the new PSU, especially as you also have expanded memory.

Confused upgrader

Help! I upgraded from my A500 to the A2000 with 40Mb Quantum hard drive and A2091 controller early last year. Thinking I'd finally got to grips with the new beast, I realised that at some point my Expansion directory containing the A2091HD file had been deleted from the hard disk.

My question is why was the drive still functioning properly while BINDDRIVERS could no longer find this file to configure the drive set-up? Was the A2091HD file really necessary after all or was the board auto-configuring?

Question 2: My drive came configured with one partition and I am quite happy with this, but I noticed on the drive partition screen of the Toolbox software that the file system for this partition is the FastFileSystem. This has me greatly confused because I have read that it is not possible to boot from a FFS partition, only from a normal AmigaDOS partition.

Question 3: Maybe I'm being completely thick, but I can't get either RAD: or RRD: recoverable RAM drives to work. When I mount either of them I can read and write files to them quite easily, but if I do a warm reboot, the RAD: or RRD: device I had previously mounted has gone along with the files I had written to it. Shouldn't they still be there? What am I doing wrong?

Please help with my problems. I can't get through to Commodore and I don't know anyone else who can help. I'm beginning to feel as lost as I initially felt when I first got my A500.

Tony Williams, Garston, Liverpool

We know the feeling. Moving to a hard drive system from a floppy-based system can be a bit like jumping in the deep end.

Don't worry about the expansion file. As long as your hard drive is properly formatted and mounted, and there is a relevant entry in the MountList, AmigaDOS will recognise it. With hard drives, rule one is 'if it works, leave it alone!'

Your partition query seems a bit odd. You should not be able to boot from a FFS partition so we can only conclude that your software is misleading you.

You will always require a small AmigaDOS partition on the hard drive from which to mount the FastFileSystem partition, so there must be one there. It sounds like your dealer has formatted the drive for you in the shop and partitioned it into the bargain. If this is so, and you're happy with the drive as it is, then apply rule one.

Problems with RRD: and RAD: are common. Make sure that ramdisk.device is in your DEVS: directory, the proper entry is in your MountList, and that MOUNT RRD: is somewhere in the startup-sequence before loadwb, and everything should work OK.

If you got the RRD: program from October's Amiga Computing, there are extensive instructions in the disk pages.

Disk saviour

If I may reply to the letter from Jim Campey in December's Amiga Computing, I think I can offer him a solution.

He complains of a hard disk that clicks on power-up. This is probably the fault of the switching power supply, which drifts over time. To solve the problem, open the power supply of the disk drive then switch on both power supplies so that the drive clicks.

Locate the preset resistor near the output cable of the power supply and turn it clockwise until the drive begins to spin. Use a small insulated screwdriver to do this, and take care, as there are quite high voltages across some points.

If this doesn't work replace the power supply, preferably with a heavy duty one, and/or replace the drive with a large SCSI drive.

John O'Leary, Valkenburg ZH, Holland

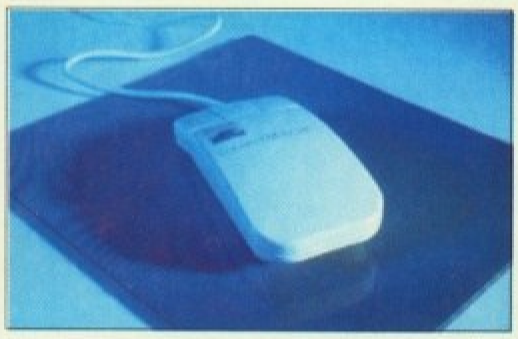
A tidy solution to an annoying glitch, but only for those with a healthy fear of death by electrocution.

If you've any doubts about doing such a repair yourself, take the drive to a qualified engineer and pay for a repair.

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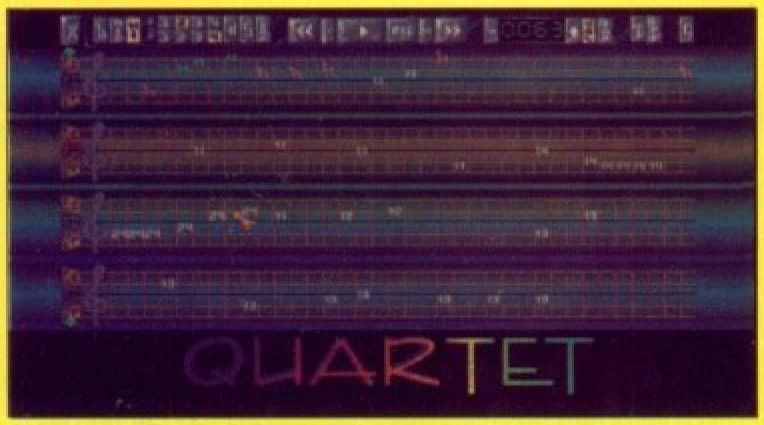
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– Amiga Computing, August 1990

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"Is it real or is it Master Sound?"

– Amiga Computing, May 1990

See order form on page 129

Jason Holborn takes a look at what's new in the world of desktop video. For DTV hints, tips, news and reviews, this is the column

Desktop Video

Desktop video is a diverse application, but by far the most common area is video titling. As a result, the Amiga is far from starved of quality video titling software.

What many seem to ignore when picking a suitable package is the quality of the fonts supplied – after all, if you're working in high resolution you'll want fonts that are both clear and of a fairly large point size.

Most packages include at least a couple of fonts, but these are rarely of much use. Even if your titling package does boast a goodly selection of decent fonts, it's a sure bet that you'll get bored with them in a matter of weeks.

The answer, of course, lies in third party fonts. Most titling packages use standard Amiga bitmap fonts so it's a fairly simple process to install additional ones.

PD libraries are a good source of free bitmap fonts, but they tend to be rather limited in size – I've yet to see one larger than 36 point.

You can of course buy fonts, but at about £40 a throw they aren't exactly the cheapest option available. If you insist on this course then Gold Disk's new Type packs are a good bet.

These are actually Agfa/Compugraphic outline fonts for use with Gold Disk's own DTP software, but they thoughtfully also supply a handy little utility that allows you to convert the outline fonts to the standard Amiga bitmap style.

The fonts themselves are structured so that the bitmap results are of the highest quality. Another advantage of the Type series is that you can produce fonts at just about any point size – just tell 'Type' which size you require and it does the rest.

If you feel a bit arty you could well design your own fonts. For mono ones this is something you can do straight away.

In the Tools drawer of your Extras disk you'll find a powerful little program called Fed which will allow you to produce bitmap fonts with ease.

Once again though, Fed limits the size you can produce – 32 point is about as high as it will go.



Calligrapher – an absolute must for video titling fanatics

A much better bet is a very clever program called Calligrapher which should be available from just about any decent Amiga software stockist.

Calligrapher has been around for years now, but very few people seem to know of its existence, which is a great shame considering what it has to offer.

The program is a very powerful font editor that will happily handle both mono and colour. You can edit existing fonts or design your own from scratch.

Even if you don't like Calligrapher's character editor, you can still design your fonts within a package such as DPaint and then pull them into Calligrapher.

The program then converts them to font files, making them accessible to other packages. I've built up a fairly large selection of colour fonts using this technique.

Also starting to appear are a number of animated colour fonts that use DPaint 3's unique AnimBrush facility. Zuma currently sell about three different packs of animfonts all of which should be available in the UK by the time you read this article.

Desktop video is still in its infancy, so you can expect to see some pretty astounding developments in the future. In the case of video titling, I anticipate more packages that use Compugraphics fonts such as those produced by Gold Disk.

These are undoubtedly the way video titling must go, as they can be set to just about any point size without quality suffering. Mark my words someone is probably working on it right now!

Gold Disk goodies

This month I've some good news and I've got some bad news. First the bad, Gold Disk's whizzo desktop video system ShowMaker still isn't here.

And the good news? Old GD have launched MediaMaker, a cut down version of ShowMaker aimed at the average home user with nothing more than an A500, a genlock and a few good ideas.

At the time of writing the old fax still hadn't turned up, so I can't tell you a great deal about this package other than the few details revealed to me over the phone by those nice people in the US of A.

From what I have been told, MediaMaker is almost identical to ShowMaker apart from the loss of a few features that were aimed at the professional DTV user.

This usually means that most of us would never have found a use for them anyway. As a result, such things as SMPTE and MTC are definitely out, but all the rest is almost certainly in.

For those still unaware of the power of this marvellous system, MediaMaker is a comprehensive multimedia authoring system that allows you to pull together video, graphics and sound within a single package.

Most packages are constrained by the Amiga's 9Mb memory limit, but MediaMaker allows you to construct presentations limited only by the amount of storage your system has to offer.

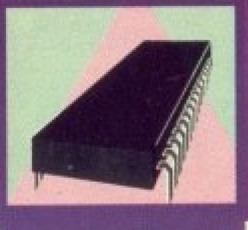
Using intelligent autoloading techniques, MediaMaker calculates precisely when to load animations and graphics, thereby avoiding the bottleneck associated with conventional presentation packages.

The different elements of your presentation can be synced together using MediaMaker's graphics-based sequencing system.

Simply by dragging out a segment within the onscreen display you can set up both duration and cue time for any element of your presentation.

If this isn't enough to whet your appetite, expect a full review very soon. In the meantime Gold Disk goodies can be bought from Silica Systems on 081 309 1111.

Machine Code



This month, Jolyon presents a collection of machine code-orientated software goodies...

I thought I would look at some new software that's come my way over the last month.

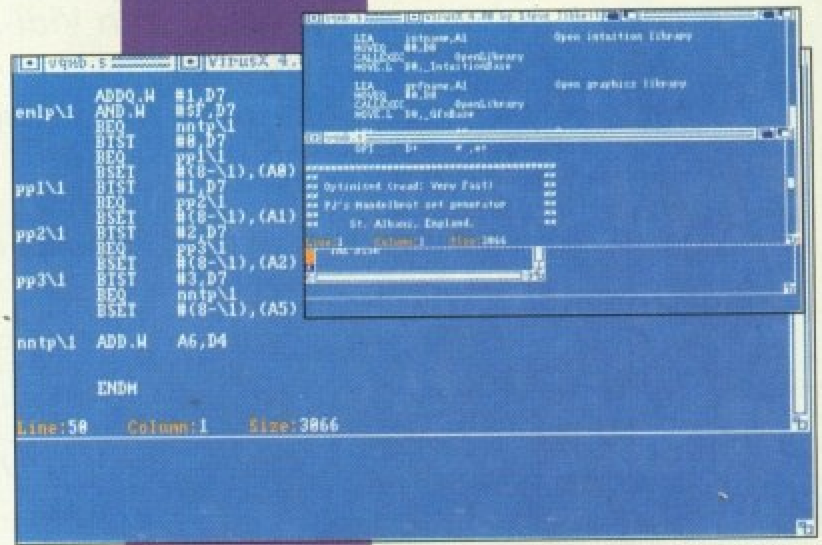
Firstly, a new assembler called ADAPT. Written by Lake Forest Logic Inc. from the USA, it costs around £50 to £60 and claims to be the first professional-quality 680 x 0 macro assembler package for the Amiga series of computers.

Since Devpac Professional has yet to make a public appearance, I would have to agree with its claim. What makes this assembler unique, is that it has direct support for all the weird 68020/68030 instructions I mentioned last month, as well as supporting the 68881/68882 maths co-processors and the 68851 Memory Management Unit.

Obviously these aren't much use unless you have a machine with a faster processor fitted. But if you do and you want to write something using these new instructions, this is your assembler.

It isn't what I'd call fast. Faster than the Metacomco Assembler perhaps, but that's about it. Converting op-codes into hex in your head is almost faster than the original Metacomco assembler, so it's not much to be proud of. Argasm leaves it standing and even Devpac easily beats it for speed.

ADAPT isn't totally compatible with other assemblers for example the standard OPT c- command to turn case sensitivity off is replaced with CASEOFF. The more interesting parts of the package are the two utilities HPROF and PMA. HPROF is a run-time profiler, which is a tool to work out how much time the program you are testing is spending in its relevant sub-routines. It uses a CIA timer interrupt which stops your code executing, works out where the program counter is in relation to your code, and returns to your code.



Not quite as fast as Argasm here, but ADAPT is pretty good nonetheless...

When your code finishes executing, you're given a table of all the labels defined in the code and how many times the profiler recorded the program counter at that location. For this you need to assemble with the debug option on.

The actual number of times the routine was called would be much higher, but the numbers HPROF gives should be in the right ratios, so you can work out which bits of your code are called the most. Very useful if you need to optimise your code but don't know where to start.

PMA is a file disassembler that takes an executable or object file and disassembles hunks into 680 x 0 code. It has a nice option which will add a comment to each line giving the 68000 instruction execution time in clock cycles.

I wouldn't' recommend the ADAPT package for a first assembler, go for HiSoft Devpac instead. But if you're a keen 68000 programmer then it's worth a look.

Commodore has released some nice new debugging utilities which at the moment are only available to registered developers, but they have apparently just been released as freely distributable in the States, so expect them here soon.

The best of these is called Enforcer. Unfortunately you need a Memory Management Unit (the 68851 chip found on better 68020 boards, or found internally in the 68030 chip) for it to work.

What it does is monitor the Amiga's processor for any access to memory areas that do not exist, or any read or write access to low memory (where the processor vectors are stored), except for reads from location $00000004.

The ROM is exempt from this, so all changes to low memory such as setting up an interrupt, must be done through the operating system. If the MMU detects an illegal memory access, it prevents it and writes out a report on the 'hit' to the serial port at 9600 baud. To read this you will need a serial terminal or another computer running a terminal emulator attached to the serial port.

If you have a modem, you can use it to echo the characters back to your Amiga, and you can run JR-Comm or NCOMM in the background. It's quite surprising how much software – which seems to be bug-free – comes up with these hits, even Commodore isn't blameless, some of the older releases of its Workbench programs fall over.

The good thing about this program is it will detect bugs in the program, which won't immediately jump out at you. Talk to Commodore on (0628) 770088 about registering as a Developer.

Here's some more optimisations for you:

1. MOVE.L #$80000,d0 can be replaced by:
   MOVEQ #$8,d0 SWAP d0

2. MOVE.L #$1800,d0 can be replaced by:
   MOVEQ #$18,d0 ROL.L #8,d0

3. MOVE.L a0,a1 ADD.L #20,a1
   can be replaced by
   LEA 20(a0),a1

And finally, I'll end with a little routine. I won't tell you what it does, just type it in and try it out – don't worry, it isn't dangerous!

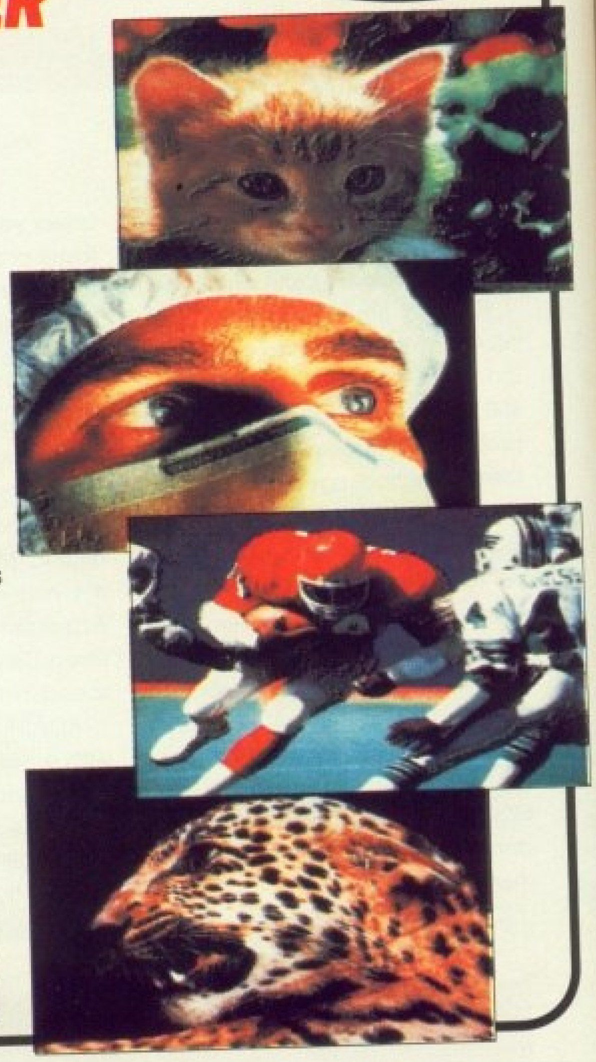
```
start lea data,a4
      moveq   #0,d0
      moveq   #1,d1 main
      move.b  $dff006,d2 .loop
      cmp.b   $dff006,d2
      beq.s   .loop
              move.w   d0,d2
              lsl.b #4,d2
              eor.b    d0,d2
              move.w   d2,$dff102
              add.b    d1,d0
              cmp.b    #0,d0
              bne.s    .sk1
              moveq    #1,d1 .sk1
              cmp.b    #15,d0
              bne.s    .sk2
              moveq    #-1,d1 .sk
              btst     #6,$bfe001
              bne.s    main
              rts data
              dc.l     $47657420,$4a757374,$20416d69
              dc.l     $6761204d,$6f6e7468,$6c792100
```

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Code Clinic

Margaret Stanger continues her dive into C with a look at the Intuition controversy

For a long time I was led to believe that real programmers never use theiIntuition library. Instead they ignore the system completely, set up their own copper lists and access all the chips directly.

The resulting reduction in overheads saved enough T-states to give their sprites a lot more wellie. This was particularly true when the only input was from the joystick – scanning for keys, menus, gadgets, mice and others would be gratuitous.

However, authors of utilities find that a screen can be a convenient way of handling the display. Windows can handle most of the input, thus saving the programmer a lot of grief. Intuition is compatible with graphics primitives, even the more esoteric multiple viewports and dual playfields, and does not interfere with the sound.

Intuition screens

With applications that scan for several types of input and sprites that do not need a lot of speed, it is all right for an author to admit to using the Intuition Library and come out of the closet.

Intuition keeps track of the properties of a screen by creating a screen structure for it and stashing it away in memory. The variables in a structure are always in a standard order, for example the offset of the LeftEdge from the base screen address is always the same – see Figure I.

```
struct Screen
{
    struct Screen *NextScreen;          /* linked list of screens */
    struct Window *FirstWindow;         /* linked list Screen's Windows */
    SHORT LeftEdge, TopEdge;            /* parameters of the screen */
    SHORT Width, Height;                /* parameters of the screen */
    SHORT MouseY, MouseX;               /* position relative to upper-left */
    USHORT Flags;                       /* see definitions below */
    UBYTE *Title;                       /* null-terminated Title text */
    UBYTE *DefaultTitle;                /* for Windows without ScreenTitle */
    BYTE BarHeight, BarVBorder, BarHBorder, MenuVBorder, MenuHBorder;
    BYTE WBorTop, WBorLeft, WBorRight, WBorBottom;
    struct TextAttr *Font;              /* this screen's default font      */
    struct ViewPort ViewPort;           /* describing the Screen's display */
    struct RastPort RastPort;           /* describing Screen rendering     */
    struct BitMap BitMap;               /* extra copy of RastPort BitMap   */
    struct Layer_Info LayerInfo;        /* each screen gets a LayerInfo    */
    struct Gadget *FirstGadget;         /* pointer to your own first gadget*/
    UBYTE DetailPen, BlockPen;          /* for bar/border/gadget rendering */
    USHORT SaveColor0;                  /* used after a DisplayBeep*/
    struct Layer *BarLayer;             /* for the menu bar*/
    UBYTE *ExtData;                     /* extension */
    UBYTE *UserData;    /* general-purpose pointer to User data extension */
};
```

Figure I

To save us hassle there is a disk file available with details of all the intuition structures, together with the numerical value of any flags used. This file, intuition/intuition.h can be included in the C source code by a statement at the beginning of the code.

There is a small file called exec/types.h that is included to interpret the structures in the other include files. It tells us that a byte increases the offset by one byte, a word by two bytes and so on. Some of these include files call in other include files and there are many cross references.

```
#include <exec/types.h>
#include <intuition/intuition.h>
```

Version 5 of my compiler uses a compressed version of these include files when compiling. The annotated version for reference was found hidden away on disk 3 in the Compiler_Headers/intuition directory in the screens.h and intuition.h files.

```
struct NewScreen
{
    SHORT LeftEdge, TopEdge, Width, Height, Depth;  /* screen dimensions */
    UBYTE DetailPen, BlockPen;             /* for bar/border/gadget rendering */
    USHORT ViewModes;           /* the Modes for the ViewPort (and View) */
    USHORT Type;                /* the Screen type  */
    struct TextAttr *Font;      /* this Screen's default text attributes */
    UBYTE *DefaultTitle;        /* the default title for this Screen */
    struct Gadget *Gadgets;     /* your own Gadgets for this Screen */
    struct BitMap *CustomBitMap;/* pointer to your own Bitmap(ifany)*/
};
```

Figure II

The easiest way to open a screen is to use the Intuition Library routine OpenScreen with a pointer to a NewScreen structure (see Figure II), which contains some of the values and pointers for the screen.

The rest can always be changed later once we have the screen address. I always feel as if I have to fill in an application form before I am allowed to have a screen when I use this OpenScreen command.

● NEXT MONTH: How to handle intuition messages without getting neurotic, and how to display system error messages with dignity.

Windows

There is a similar arrangement of filling in a new window structure for each window in the screen. I used the same application form for each of my three windows and changed the details slightly afterwards once I had the address of the window structure.

The program opens a custom screen and the first window. The window flags are set for most of the system gadgets and intuition takes care of their activities.

```
customscreen= (struct Screen *) OpenScreen(&TheNewScreen);
if (customscreen == 0) cleanup("no screen");        /*open the screen*/

TheNewWindow.Screen = customscreen;                /*attach window to screen*/

                                                   /*open this window*/
if ((thiswindow = (struct Window *)OpenWindow(&TheNewWindow))  == NULL)
cleanup("cannot open this window");
```

The IDCMP CLOSEWINDOW flag is deactivated on the second imaginatively named window, the title is changed and the window is slowly moved down.

```
TheNewWindow.BlockPen = 3;                                  /*open that window*/
if ((thatwindow = (struct Window *)OpenWindow(&TheNewWindow))  == NULL)
cleanup("cannot open that window");
SetWindowTitles(thatwindow,thatwindowtitle,screentitle);
ModifyIDCMP(thatwindow,0);                                  /*alter that window*/
for (i=0;i<50;i++)
MoveWindow(thatwindow,0,1);                                 /*move that window*/
```

The third window is opened, modified and moved in a similar way. These windows can all be dragged, sized and made active. The program only exits when the first window is closed with its close gadget.

```
Wait(1<<thiswindow->UserPort->mp_SigBit);          /*wait for mouseclick on*/
                                                   /*thiswindow close gadget*/
cleanup("ok");
```

The program uses a few of the routines from the intuition library, but there are many more available. I have included a list of all the 1.1 library intuition routines that were documented. For each one listed on the coverdisk the input, input registers, output (where applicable) and a short description of the effect of the routine are provided



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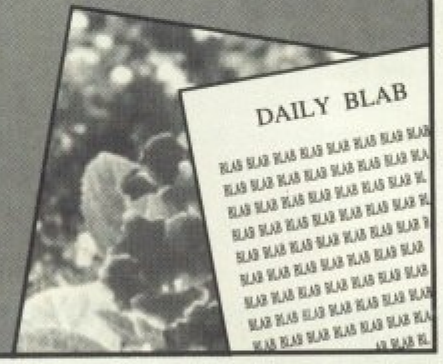
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VISA

If you thought 8-bit samplers were the bizz, then Jason Holborn has a few surprises for you

We all know what a great machine the Amiga is for sampling sounds – just listen to any one of the many PD music demos available. However, for studio use the 8-bit Amiga samplers currently available leave a lot to be desired.

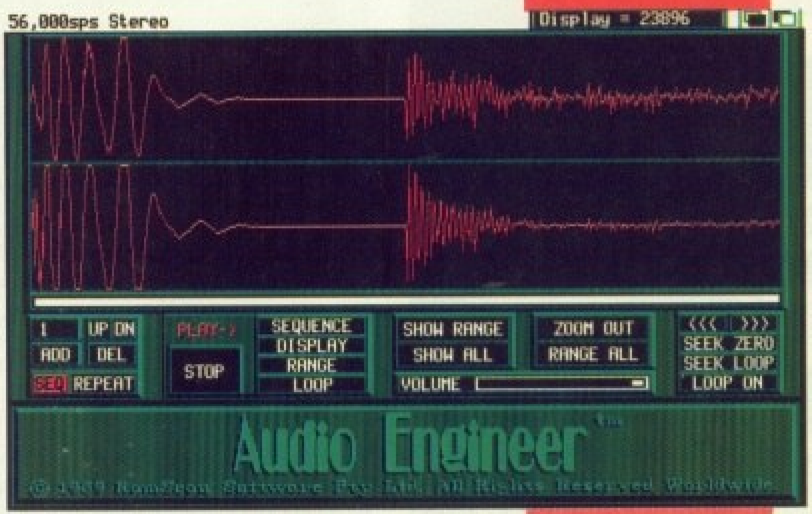
If you're serious about your music making there really is only one choice – the 16-bit sampler.

The Atari ST has been blessed with 16-bit samplers for a fair while now, but none have made the trip across to the Amiga. All that could soon change with the news that several companies in both the USA and Europe are working on products to bridge the gap in the market.

Already Beta Unlimited in the States have been marketing a product called AudioLink, which is claimed to be a 16-bit linear stereo audio processor with sound sampling capabilities. Beta prefer to keep strangely quiet about their device, despite the fact that it is undoubtedly an Amiga first.

Hot on their heels are a company that certainly know a thing or two about samplers – SunRize Industries. They have been producing their Perfect Sound range of 8-bit Amiga samplers for years now, so it was only a matter of time before they took the next step up – 12 and 16-bit.

Rumour has it that SunRize are hard at work on both a 12-bit and a 16-bit sampler card for the Amiga 2000 upwards (1500 included). Their Audio for Video Post Production System – catchy name, eh! – consists of both hardware and software that should provide Amiga users with the same kind of sampling power offering by DigiDesign's Sound Tools system for the Mac and ST.



Now officially known as AudioMaster III

No solid specifications were available at time of going to press, but SunRize assure us that the16-bit will offer 'CD quality' sound.

Closer to home, Checkmate Digital, the company that brought you the A1500 case conversion kit for the A500, have confirmed rumours that they are working on a 16-bit sampler for the Amiga.

The exact specification is yet to be finalised. But Steve Jones of Checkmate told *Amiga Computing* that the sampler will come in the form of a plug in card for both the 2000 and A1500. According to Steve, prototypes of the card are up and running, but the software is yet to be written.

The bad news is that before you jump on the phone VISA card in hand and demand a sampler card for your Amiga, Steve was quick to make it clear that it is still very much 'in the pipeline' and will certainly not be with us for some time yet.

As soon as he tells us more, we'll pass it on to you through these pages.

On the software scene, programs supporting 16-bit sample editing are already generally available.

Dissidents Software in the USA market a program called Sample Wrench, which offers editing of 12 and 16-bit samples from a range of studio samplers including the Akai S1100 and the Ensoniq EPS16.

If 16-bit sampler cards become commonly available, Dissidents will almost certainly include support within their product to cater for the new market.

AudioMaster III at last

On the subject of sound sampling, it seems that RAMScan, the people behind the very sexy but very expensive Audio Engineer sampler have signed a deal with Oxxi/Aegis to distribute the Audio Engineer sample editing software as a stand alone package.

Everyone knew that the Audio Engineer software was in fact AudioMaster III, but RAMScan have made it all official by granting Oxxi/Aegis the rights to distribute it under the AudioMaster III name.

The pack is available now from HB Marketing who will sell it to you for the very reasonable price of £69.95.

Features-wise it is virtually identical, so I won't bore you with the details. Suffice to say AudioMaster III is one hell of a package – read the review in the December 1990 issue of *Amiga Computing*. HB are on 0753 686000.

Perfect sampling

SunRize's 16-bit sampler card may sound like the one you've been dreaming of, but their new Perfect Sound 3.0 is still worth checking out. For £59.95 you get one of the most advanced Amiga samplers available.

The hardware offers sampling rates up to 32KHz in mono and 12KHz in stereo. There's also a built-in mic jack with pre-amp for microphone sampling.

An advanced A/D circuit provides 'sample and hold' sampling with a hardware-based clock which helps to keep everything running at a precise speed.

Sound levels are adjusted through the software which, with an onboard voltage regulator ensures low noise operation and production of the cleanest samples possible.

SunRize have also cleaned up their sampling software. As well as all the usual editing tools, Perfect Sound 3.0's new editor boasts a far more attractive looking interface.

Many of the editing operations are now available from onscreen icons, thereby making operation much smoother.

Perfect Sound 3.0 is distributed by HB Marketing.

Pipe mania from the Bakery

If you're looking for a MIDI sequencer that is a little different, then Blue Ribbon Bakery's Bars&Pipes may well be what you've been looking for. The good news is that Blue Ribbon have launched a professional version of their sequencer system, which is sure to earn it many new friends.

Bars&Pipes Professional boasts many powerful features including an unlimited number of tracks, full graphical sequence editing, comprehensive SMPTE time code support, automated mixing (KCS 3.0 style), even list editing and, most importantly, full score editing facilities. This module allows you to display, edit and print your music in conventional score format, therefore allowing you to share your masterpieces with other non-MIDI musicians.

For synth owners, there's also a built-in SysEx (system exclusive) filer module, allowing you to dump the sounds from all your synths and store them on Amiga floppy disk. For more, give HB Marketing a call on 0753 686000.

Communications

Delving the depths of comms Eddie McKendrick begins a detailed guide for the uninitiated

Communications can be a daunting area to dabble in. What should be a fun hobby can sometimes seem more like a black art. Approached without any knowledge it can be time consuming, frustrating and fruitless.

With a little planning though, getting online can be a relatively painless and enjoyable experience.

Over the next few months we will be providing a detailed step by step beginners' guide designed to explain the various ins and outs of comms in plain English. This month we start with a shamelessly simplistic guide to the basics.

So in the true spirit of first things first let's examine the nuts and bolts. To get on-line you need four key components: an Amiga, some comms software, a modem and a telephone line.

The Amiga and software are not really a problem. You probably already have an Amiga and there are numerous excellent shareware comms packages available.

Two good sources are the *Amiga Computing* coverdisk from July 1990 which features NComm, and 17 Bit Software's PD Disk number 444 which includes masses of different packages including the excellent JRComm and Supertex.

Connections

So that leaves the phone line and modem to worry about. Before you can get online your computer needs a physical connection to the phone network. This is achieved via a suitably approved modem.

You can spot approved modems by looking out for a sticker with a green circle somewhere on the outer casing.

If by chance you find that the sticker has a red triangle, or there is no marking, the modem is not approved. In short this means you cannot legally use it.

There are two different types of modem, manual and software controlled. It is by far better to obtain a software controlled modem as they are more flexible and easier to use. Manual modems are very old, slow and for the most part obsolete.

Having found your sticker you next need to find your socket. Virtually all modems now come fitted with modular jack type connector. This plugs straight into a modern BT master or extension socket.

If you live in an old house then you may be unfortunate enough to find that instead of said socket you have a hard wired linebox. In which case until you get BT out to change it to a new style socket, you are stuffed.

Having established that you have the correct type of socket and an approved modem, things get a little less harrowing from here on in.

There are two links in the comms chain. Your Amiga has to be connected to the modem and the modem in turn has to be connected to the phone line. Hooking a modem to the back of your computer should not be a problem. The Amiga has a D type RS232-C serial port.

You will need a standard serial cable in order to hook up to most modems. This has pins at the computer side (male) and holes at the modem side (female).

If your modem does not have a standard D type connector on the back it is safe to assume that you need a special cable for it. The manufacturer should supply this with the unit.

The modem is hooked up to the phone line by inserting its modular jack into the socket on your wall. Usually there is a socket on the back of the modem for a telephone to be looped through, allowing calls to be answered normally when the modem is not in use.



An ultra modern Hayes compatible modem

After the physical side of things has been sorted out the software tweaking gets underway. It is at this stage that most people throw their hands up in horror and vow never to even utter the word comms again.

There are more good comms packages available for the Amiga than can be covered in this brief introduction, so what follows is a general overview rather than a specific example.

The bulk of modems in use today are 1200 or 2400 baud. Baud is simply a measure of speed and the higher the number, the faster you can transmit data.

Most modems operating at a speed of 1200 or above are what is termed Hayes compatible. This means that they respond to a standard set of instructions developed by a modem manufacturer called Hayes Microcomputer Products.

Hayes are to modems what Hoover are to vacuum cleaners. Most shareware comms packages come pre-configured for Hayes compatible modems. Going into a comms package modem setup menu will usually display various different fields like Initialisation String and Dial Prefix.

If the package is configured for Hayes modems you will see entries like ATZ and ATD next to these fields. These codes are instructions from the software package to the modem, telling it what to do.

As an example ATZ will reset the modem, ATH will cause it to hang up and ATD followed by a phone number will cause the modem to dial the number and attempt a connection.

If you are lucky and the software is already configured, you can leave all these settings alone.

Bits and parity

A number of other parameters must be defined before you can hook up to the wires and get online. These are settings which your comms software needs to know before it can interpret incoming data properly transmit it in the required format.

The three most common settings to worry about are Data Bits Parity and Stop Bits. You need not worry about what these settings mean at the moment.

For connecting to most online services you should have your software configured for 8 Data Bits, NO Parity, 1 Stop bit . This is referred to in shorthand as 8-N-1.

There are obviously other settings and we will cover these in later months, as well as explaining what they actually mean.

With a package like JRComm or NComm you must make a phonebook entry. This is where the number to be dialled, speed and port settings are defined.

After defining an entry in the phone book it should be possible to click the mouse over it and sit back as your modem whirs into action.

Within around 40 seconds you should either have an engaged tone or be connected, and this is where the fun starts.

Never fear, if you don't know enough to get online yet, next month we will round off the basics and look at how to make the most of your time online.

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If you are browned off with mono or just feeling blue with black and white, Nick Veitch puts colour into your life

Desktop Publishing

Before we get started on the nitty gritty of serious applications of DTP here are a few items of news.

It's an exciting time for DTP enthusiasts. A few months ago there was only one real choice for a professional result, but now there are three.

First there is the old favourite Professional Page. It has been around for a long time, but the new 2.0 version has just been released. This is quite a dramatic leap forward for the product as it includes style-tagging, box rotation and 24-bit capability.

Another major feature is the licensing of Pantone colours for those extra special jobs when you must have just the right shade of mauvey russet. It also seems a shade more stable on tough memory jobs.

Also sure to make an impact is Pagestream 2.1. Soft Logik's software is already popular on the ST – it's the only major DTP package worth the money for the Amy's backward cousin – and it looks like it could do good things here.

Soft Logik are certainly keen on customer support and are already planning an office in the metropolis.

Saxon Publisher from Pulsar could be a contender, although it has been described by one notable figure as a "very expensive and incomplete product" So is professional DTP finally going to take off in this country? It would seem so. Very soon a national newsstand magazine will be produced entirely on the Amiga.

It should be the first of many when more sensible people realise the Amy is cheaper and more versatile than the Mac. Unfortunately finding sensible people in publishing these days is like trying to find women in the Cabinet.

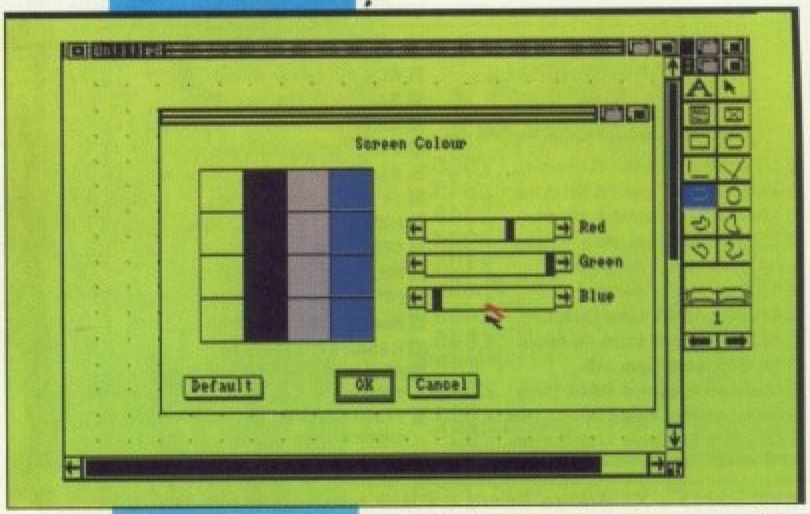
Colour

A lot of people still seemed to be confused about colour. This doesn't really matter much because most people couldn't afford to use it anyway – or so they think.

To start with we'd better explain what makes up a colour document. Basically, all the colour information in your document is split up, or separated into three colours – yellow, magenta and cyan.

These are the primary colours as far as printing is concerned, and photography too as a matter of interest. Virtually any colour can be broken down into the respective components of these three primaries.

When it comes to printing, the paper is processed three times – once with each of the coloured plates. As the image was broken down into three colours, so it is built up again. This is known as three plate processing, but normally four are used.



Most leading packages give the user control over screen colours

Why four? Well, it is very difficult to get black from the three primaries. In the world of pigments black is a sort of maverick figure and what usually results is a sort of murky brown. Not at all the sort of black that light simply falls into, more the sort of black that light doesn't particularly want to go near in the first place.

This adds a further complication to the separation process, as with dark shades it has to be determined at exactly what point something has black in it and not just lots of colour.

Printing johnnies will mumble about undercolour removal percentages, but don't worry, within reason it is mostly academic and as long as it is done consistently won't cause any problems.

Suppose you only want to use one colour – a spot colour. It would be a bit wasteful to go through all that processing for the sake of just two colours. So don't.

Only two films are needed so only two are used. The second film is processed as exactly the colour you want. There lies the rub – it's no good telling your printer you want a sort of honeysuckle shade because his idea and your's are bound to be completely different.

Precision

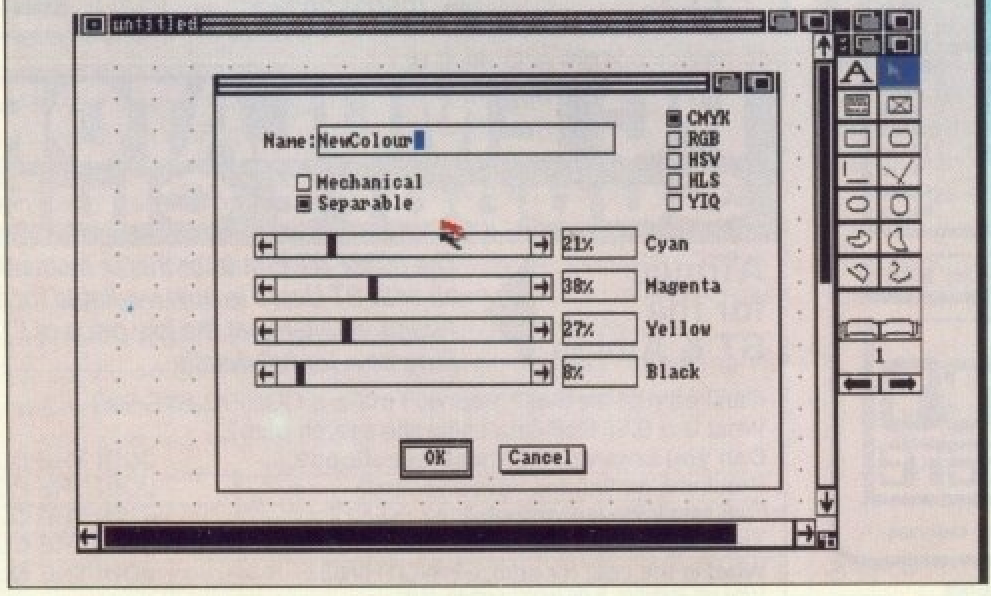
This is where Pantone is useful. Not only can you pick out the exact shade you want but you can also give it a number.

The printer will know exactly what this number means because he's got a Pantone book as well, and can then go away and mix to a universal set of proportions.

He does so from specially prepared stock solutions so you know that the colour will be exactly as it was specified no matter which printer you send it to. This is known as a mechanical colour.

Unfortunately it is a bit difficult to display all these wonderful shades on screen, what with memory restrictions and the like.

Many DTP packages have different dither modes to allow you the best chance of seeing whether your page looks like a Van Gogh or a late night kerbstone outside the local, but it's not like actually being there. So that thus far colour DTP isn't exactly WYSIWYG.



Pagestream's CMYK separation option is typical of the sort of colour power now available for a reasonable outlay

Screen clones, dual playfields and tubular wrap-arounds, it's all in this month's Amos column

Amos

Before I start my babbling how about this for a piece of news – a PD game written in STOS, the Atari ST version of AMOS, has just been withdrawn from circulation at the request of Empire due to a more than passing similarity to its own Pipemania!

This month I thought we would take a quick look at two of the least used screen functions. The first is SCREEN CLONE, a command which allows you to create an exact copy of a screen while only using a fraction of the memory it would usually take to open a screen.

Right then, load AMOS and jump to DIRECT mode by pressing escape and type in the following:

```
Screen Open 0,320,50,8,Lowres
```

This will open a small screen at the top of the monitor. Exciting, huh? Now try doing this:

```
Screen Clone 1 : Screen Display
1,,100,,
```

This line opens up a clone of screen zero and positions it slightly lower down the monitor. The clone will echo everything you see from the top screen. If we type :

```
Print "Amiga Computing"
```

you will see that it appears on both screens, and now try:

```
Cls 6,10,10 To 40,40
```

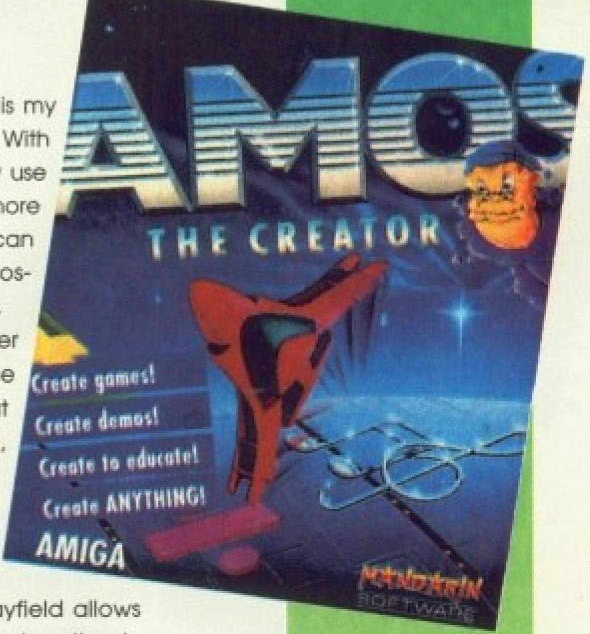
and a blue box appears on both screens. It does not matter what you do to one of the screens it will always appear on the other.

All very interesting but what good is screen clone? Imagine a two player game with two players controlling their characters on separate screens.

These screens contain copies of the same landscape – a good example is the SPY vs SPY games that appeared on the Atari 8-bit and Commodore 64.

If you opened two 16 colour screens, which take up 32K each, you immediately lose 64K of memory. Once these screens are double buffered you lose 128K – arrrggghhh..... where is my eight meg upgrade? With screen clone you only use up 64K and up to six more clones of the screen can be created without losing any more memory.

We will take another peek at screen clone later in this article but now for a rather nice, but memory guzzling screen mode called dual playfield.



To put it in very simple terms dual playfield allows you to link two screens together in such a way that the background colour of the top screen becomes transparent and shows the contents of the bottom screen.

Let's try a simple example by opening a single eight colour screen and printing a message to it. By the way, type this into the editor, not DIRECT mode:

```
Screen Open 2,320,200,8,Lowres
Flash Off : Curs Off : Cls 0
Bar 50,50 To 270,150
Cls 0,70,70 To 250,130
Paper 2 : Pen 0
Centre At(,12)+"DUAL PLAYFIELD"
```

Right, after testing that try the following:

```
Screen Open 0,320,200,8,Lowres
Flash Off : Curs Off : Cls 6
Wait Vbl
Dual Playfield 0,1
```

This opens another screen and sets dual playfield. You will notice that I have included a WAIT VBL command immediately before that command to give AMOS time to finish opening the screen and complete general Amiga-type house-keeping.

If we had a sufficient number of things to do between opening the screen and setting dual playfield we would not need this command – a hint on how to make maximum use of programming time.

Finally we will do something that will show the transparent nature of the top screen:

```
Do
    Cls Rnd(7),Rnd(320),Rnd(200) To
Rnd(320),Rnd(200)
Loop
```

Interesting effects can be created with this mode, imagine scrolling the front screen up and as each line reached the top it was copied to the background screen.

This is the way programmers create the wrap-around tubular type demo effects, and to this end we are now going to write our own.

First thing to do is to replicate the initial stage of our first program:

```
Screen Open 0,320,48,2,Lowres
Flash Off : Curs Off : Cls 0
Centre At(,0)+"AMOS IS AMAZING"
Centre At(,5)+"BUT ONLY IF YOU READ
AMIGA COMPUTING"
Screen Open 1,320,48,2,Lowres
Flash Off : Curs Off : Cls 0
Wait Vbl
Dual Playfield 0,1
```

Now we will define some scrolly zones, two for the top screen travelling upwards and two on the bottom screen travelling downwards.

The reason for two zones is to create more of an illusion of curvature. The first zone stretches from top to bottom, but the second zone occupies only the centre.

Consequently the centre of the screen is being scrolled at twice the speed of the rest. I know it sounds confusing but trust me, it works.

```
Def Scroll 1,0,0 To 320,56,0,-1
Def Scroll 2,0,0 To 320,56,0,1
Def Scroll 3,0,20 To 320,34,0,-1
Def Scroll 4,0,20 To 320,34,0,1
```

All that is left to do is to start scrolling. You will notice that screen copy is used to move the top/bottom lines between the two screens:

```
Repeat
    Screen Copy 0,0,0,320,1 To 1,0,1
    Screen Copy 1,0,47,320,48 To 0,0,47
    Screen 0
        Wait Vbl
        Scroll 1
        Scroll 3
        Screen 1
        Scroll 2
        Scroll 4
Until False
```

What do you think of that, clever stuff is it not? If you think it is a little plain, how about if we create another two copies of the screen using screen clone. This way we can fill up the screen without making too much work for ourselves.

```
' Open first screen and print message
Screen Open 0,320,48,8,Lowres
Flash Off : Curs Off : Cls 0
Centre At(,0)+"WELL HOW ABOUT THIS"
Centre At(,5)+"NOT BAD HUH"
Wait Vbl : Screen Clone 2
Wait Vbl : Screen Clone 4
' Open second screen and set Dual
Playfield mode
Screen Open 1,320,48,8,Lowres
Flash Off : Curs Off : Cls 0
Wait Vbl : Screen Clone 5
Dual Playfield 0,1
Dual Playfield 2,3
Dual Playfield 4,5
    ' Position screens
Screen Display 2,,200,,
Screen Display 3,,200,,
Screen Display 4,,130,,
Screen Display 5,,130,,
' Define scroll zones
Def Scroll 1,0,0 To 320,56,0,-1
Def Scroll 2,0,0 To 320,56,0,1
Def Scroll 3,0,20 To 320,34,0,-1
Def Scroll 4,0,20 To 320,34,0,1
' Shift screens
Repeat
  Screen Copy 0,0,0,320,1 To 1,0,1
  Screen Copy 1,0,47,320,48 To 0,0,47
  Screen 0
  Wait Vbl
  Scroll 1
      Scroll 3
  Screen 1
  Scroll 2
  Scroll 4
Until False
```

That's about it for this issue. Next month I should have an update on the compiler – I have seen a demo, it's very fast speeding things up on average about eight times. There'll also be news of some new AMOS related products.

Have fun, and I'll see you in four weeks time.

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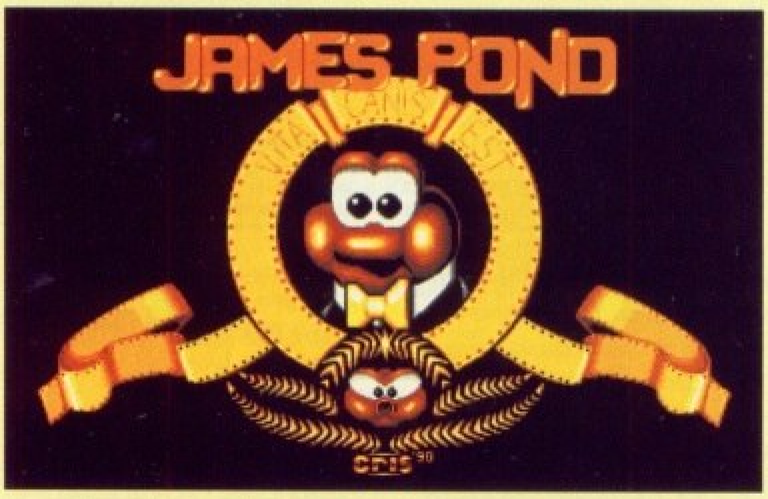


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James Pond has lots to offer most gamesplayers who aren't really looking for anything to tax their brains too much. That's not to say that it doesn't require any thought at all, because sometimes it can get quite awkward. The game on the whole is so playable and simple to get into it should have you returning to it time and time again. Let's see old Pondy back in more games in the near future.

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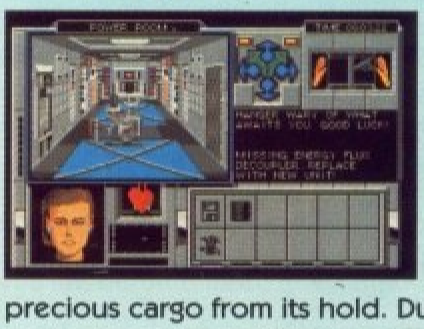
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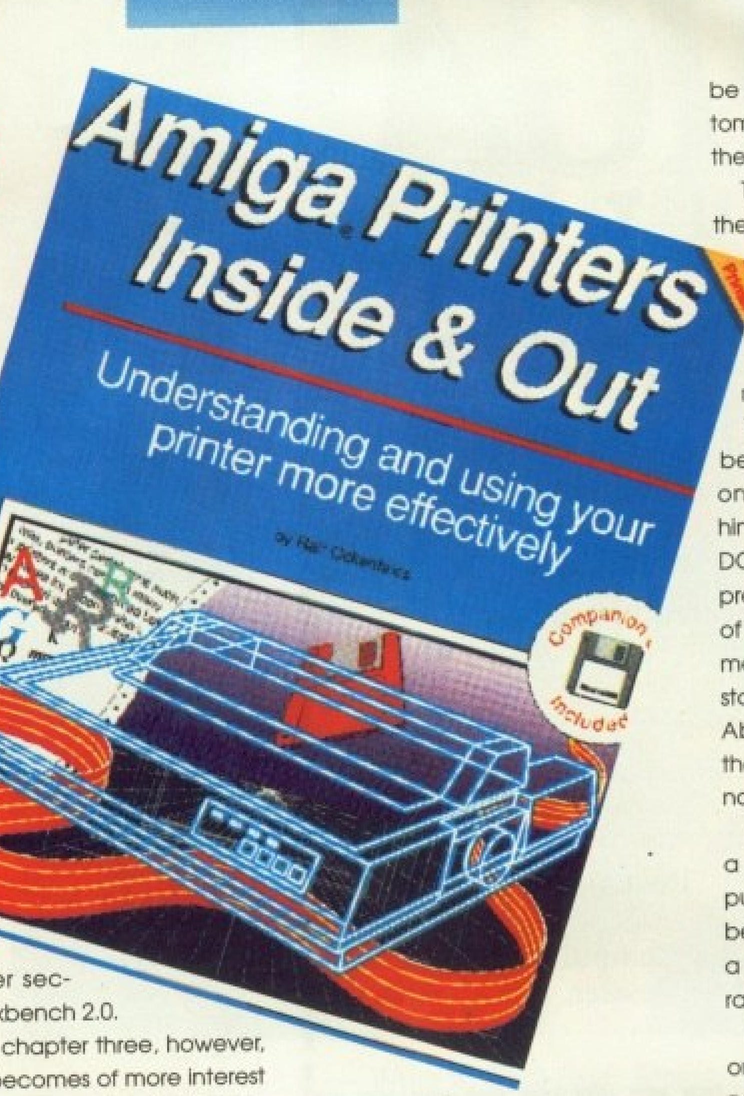
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Amiga Printers Inside and Out



Publisher: Abacus Software
Price: £33.44

If your letters are anything to go by, printers occupy a unique place in the average Amiga owners peripherals collection. They are at the same time a very popular item and one which causes the most confusion.

The newest Abacus title aims to clear up some of the beginner's confusion and give the serious user a useful reference work.

Beginners are catered for in a reasonable fashion in the first few chapters. The book starts with an overview of printer technology including a simple explanation of how they work and what some of the jargon means.

From here it goes through preferences, choosing a printer driver, and controlling your printer through AmigaBasic, Workbench 1.3, and the new printer section in Workbench 2.0.

Beyond chapter three, however, the book becomes of more interest to programmers and serious users. Topics covered include a complete rundown of all software printer control commands, writing your own printer driver, and designing your own character sets.

There is a very handy troubleshooters guide, which offers hints and advice as to what might be wrong given a particular symptom, and gives ideas on how to fix the problem.

This is clearly the best section for the beginner, as most of the common printer headaches are covered, and the suggestions provided are sensible and within the scope of the ordinary man at the keyboard.

The programmer will no doubt be most interested in the section on control codes, which covers hints on the use of AmigaBasic and DOS scriptfiles, and provides comprehensive data tables at the rear of the book. However, this doesn't mean that you'll find the language staggeringly technical. Throughout, Abacus have managed to resist the temptation to lapse into techno-jargon.

Amiga Printers Inside and Out is a clear and concise guide to putting your tame typesetter to the best possible use and fills what was a gaping hole in the Abacus range.

For the price, it is not a book recommended for the absolute beginners, because they'll find only the first few chapters of any use. For those whose interest lies mainly in productivity software, however, it should offer a great deal more.

Making Music on the Amiga

Publisher: Abacus Software Price: £33.44

The ever increasing market for Amiga music is daily becoming more of a minefield for the beginner. Making Music on the Amiga is a brave attempt to lend a helping hand to the budding MIDI musician and soundtracker enthusiast.

In the dim and distant past the variety of subjects covered in a manual like this would be relatively limited, largely restricted to the sound chip and its impressive abilities.

If you were lucky you might have had a section covering some basic programming techniques used to squeeze the best from Paula, with perhaps the occasional reference to a staggeringly complicated piece of commercial software. The author of Making Music obviously saw this literary hole, and has done a reasonable job of filling it.

The book contains a basic tutorial guide to sound generation and the principles involved – oscillation, digital sound effects, sound composition and the physics involved in producing them.

After the introduction to computer music it moves on to AmigaBasic, GFABasic and the C programming language, with assembler thrown in for good measure.

Making Music doesn't restrict itself to the Amy, but branches out into devices and hardware programming. As a result the book solves a few common problems, which regularly cause misery to the would be musician. A separate chapter deals with the mysteries of IFF, 8SVX and SMUS formats, telling you both how to handle them and the programming intricacies involved.

The MIDI section is particularly useful, not only as a guide to the subject, but also as a manual to the construction of a MIDI interface itself.

All the functions and concepts are well covered, complete with parameters and schematics.

Once you've made the MIDI interface, moving onto building the sampler will be a doddle. The digitisation section is quite short but does give a brief rundown of the subject. The back of the book is where most people will spend their time, thumbing through the guides to a wide variety of commercial offerings like Perfect Sound, Aegis Sonix et al.

For those with less depth in their pockets a separate section contains a definitive guide to one of the most popular offerings from the public domain, Med, which was recently given away on the *Amiga Computing* coverdisk.

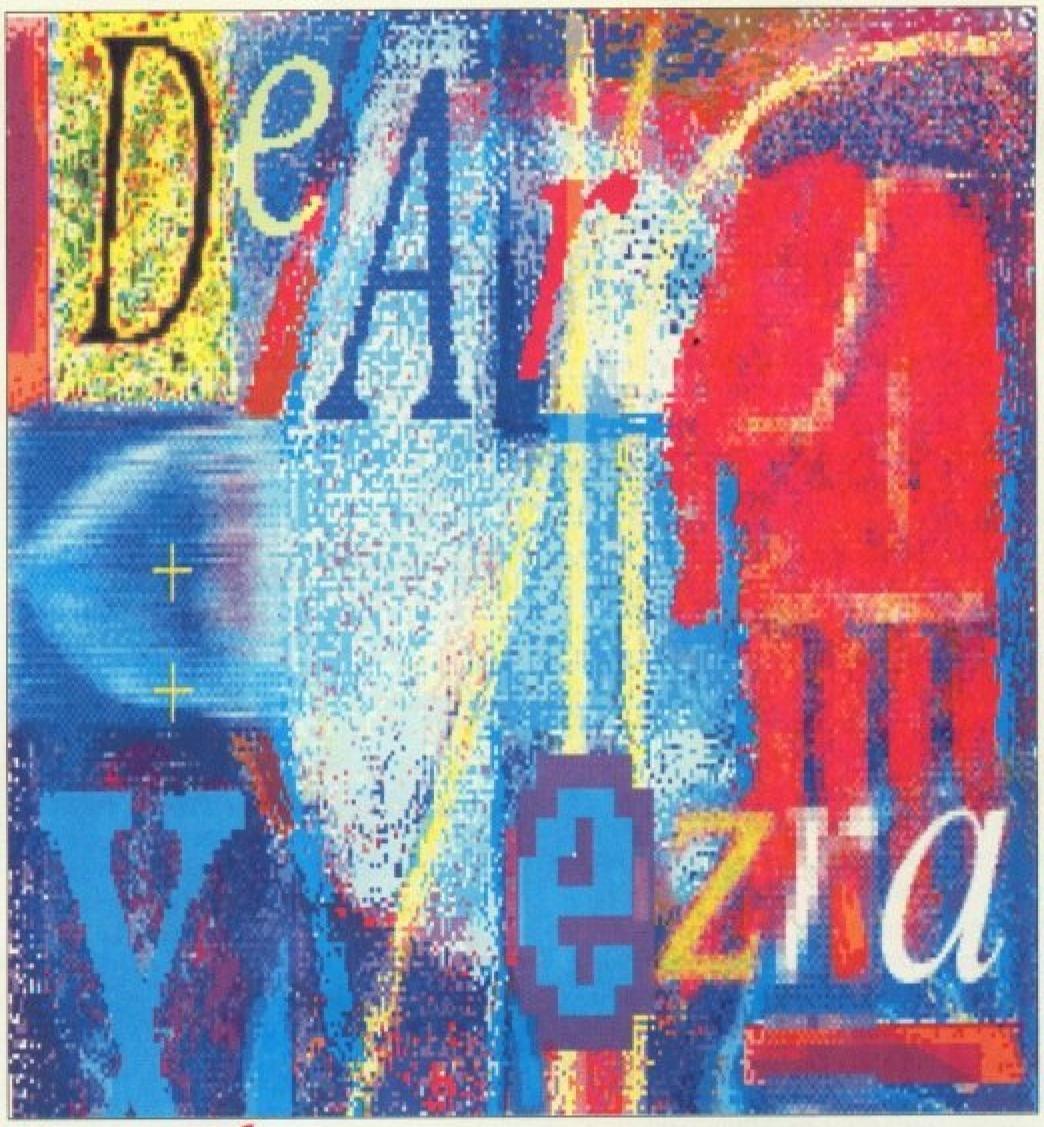
On the subject of disks, the one provided with the book complements the pages and provides an extra dimension to the presentation.

As a general guide to Amiga music the book is good, covering almost every aspect of the subject. It may lack a little depth for the advanced reader, but for the average Amigan it's an excellent introduction to the field.

Both these books can be obtained from:

Computer BookShops
Tel 021 706 1250

ADVERTISERS' INDEX



Despatches — Write to Ezra Surf, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP

The best Amiga mag?

I write firstly to congratulate you on making *Amiga Computing* even better than before. The new layout makes you by far the number one Amiga magazine.

Could you please answer the following questions.

- How is it possible to connect a video recorder to my Commodore 1084 monitor and what leads do I need?
- When can we expect to see a C programming series in the magazine now that you have machine code, music, DTP sections etc? I would hope that you intend one soon.
- Can you tell me if it is possible to obtain back issues of the first eight issues of *Amiga Computing* as these are the only ones I don't have?

Mark Davidson, Stockport, Cheshire.

Your first question is really for our technical help pages, but here goes. You can't simply connect a video directly to the Amiga but instead, you need to get hold of a device known as a video digitiser.

This connects between the Amiga and a domestic video recorder and enables the machine to grab video frames in real-time, saving them to disk for later manipulation with a favourite paint package.

The only lead you'll need, a bit of co-axial cable equipped with either phono or BNC plugs or a combination of the two, is invariably supplied with the digitiser.

A video digitiser will cost you – at the cheap end of the market – around £100. Which one? Check out Rombo's (0506 414631) VIDI-Amiga. This is a 'cheap' but good quality digitiser that is highly regarded by those 'in the know.

As for your second question, have a gander at last month's Almanac. Ace programmer Margaret Stanger's C column got off to a rollicking start! And will continue to build, month by month, into the definitive C programming tutorial for novices and experienced programmers alike.

Back issues? I'm afraid not. Seems that they were just so good, they've all gone. Perhaps you ought to take out a subscription so that you'll never miss another issue.

All at C

I have enjoyed your magazine for quite some time now and have found that you answer most questions that I need to have answered.

One thing that is troubling me is that I am wanting to learn how to use my Amiga seriously. I have read your reviews on different languages for the Amiga and feel that if I am going to sit and learn anything, then it might as well be good old C.

The problem is that I cannot afford any of the programs that are available on the market, so I've been looking at public domain programs. The only two that I can find are North C and Sozobon C.

As I have no knowledge of programming and therefore need to buy a book for absolute beginners, I would like to know which is the best language and whether it will work with books available for beginners.

I am aware of the documentation that comes with these programs but are they any good? Don't you have to print them out in order to follow them while you're learning the language?

There is no one that I can ask to help me, so I do hope you can.

K A Stacey, Bournemouth, Dorset.

North C is an extension of Sozobon with a few additions and a new front end, so you should choose that.

It more or less conforms to the Kernighan and Ritchie implementation of C, but provides many OS bindings for use with the Amiga. You shouldn't have any problems using North C in conjunction with a beginners' book.

Serious at last

I'd like to take the the time to express my appreciation on the increase in quality of your magazine. For example, I have noticed more dedication towards the serious side of the Amiga, and less on the games side.

Don't get me wrong though, I really enjoy 20 laps of the Indianapolis Motor Speedway, ruling the lands of Powermonger and the skies in F16 and F19 Combat pilot.

At long last, owning an Amiga has become worthwhile. Software houses are realising that for the benefit of everybody, effort does reward. Electronic Arts and Gold Disk are good examples of those writing Amiga-specific titles.

This letter was written with TransWrite (which I would recommend to anyone) to be hot linked across to ProPage, fully multitasking. That's what I call power computing! Although I seriously need some more RAM.

Regarding your letter from Mark Ford last month, I think a programming problem or two each month is a great idea and look forward to seeing it implemented.

What a strange concept about the idea of someone else reading your magazine being piracy. Seems to me it's OK as long as it's impossible for the subject to be in two locations at the same time (duplication). Correct me if I am mistaken.

Moving on to the cover disk, it would be nice to see more utilities if possible. Parnet, although I currently don't use it, is a good example. I would be grateful if you could now answer a few queries.

- I bought ProPage 1.3 at the Computer Shopper Show but it only has a Canadian address to write to. I shall send my registration cards but in the meantime, what do you know of Pro Page 2.0? What are its key features, how much will it cost and when will it be available?

Hopefully, Gold Disk will offer an upgrade path.

- I have written a program in AMOS that will play back sound samples of any length (ie megabytes) on a half meg Amiga, but it requires a hard drive (virtual memory techniques are afoot, if I'm not very much mistaken, Watson – Ed). I'm not sure of the user demand for this sort of thing. Is it cover disk material?
- There is a superb air traffic control program available on the PC called TRACON (Terminal Radar Approach CONtrol) by Wesson. Is this ever going to be available for the Amiga?

With TRACON 2 and Flight Simulator 4 it is possible to link up to 16 PCs together along with voice recognition and the controller can direct the other aircraft around the area.

Mike Laskey, Ramsgate, Kent.

Priced around £200, ProPage 2.0's most startling new feature is its ability to generate Postscript files for printing. The program also provides outline fonts on screen.

For a full description of its many features, watch out for a definitive review coming soon in your favourite magazine.

Your sample playing program sounds interesting and we would definitely be interested in seeing it for possible inclusion on our cover disk. Bung it to us. And that goes for the rest of you.

If you've written a funky little utility but you're not sure whether it will appeal to a wider audience, send it to us. If it's well written we'll use it!

Wesson's TRACON, huh? Possibly. Software houses convert big selling programs to other formats if it's technically possible, there's a demand and it's likely to sell. Only Wesson knows whether TRACON meets the conversion criteria – give 'em a ring.

Memory refresh?

I am a freelance interpreter and translator, and essentially use my Amiga 500 as a word processor. Reading your magazine gives me a guilty conscience about this and I'm always vowing to find out more about my machine, but never seem to find the time.

Now since I know but little about my Amiga, I would like to request a glossary in *Amiga Computing* for the uninitiated like myself who enjoy your magazine, but are continually tripping over the jargon.

I have a dictionary of computing on my bookshelf and was able to look up cache memory from this month, but what about HAM?

I know I've seen it explained in the magazine and I guess I should have made notes, but a little glossary in every issue would be very helpful. You could refresh our memories on DMAs, CBMs, PSUs and the like.

The recent review of word processing programs was interesting, but does anybody know of a spelling checker that will react to hyphens? Other-wise it-is possible-to write words with hyphens and the spelling checker doesn't pick them up.

Incidentally, don't take offence, but there are times when your contributors should be encouraged to let a spelling checker scrutinize their work.

Recently you reviewed Hypercard which is now available for the Amiga as well as the Macintosh. Which issue was the review in? Could I suggest some sort of index to a year's issues so that we could look up items in past issues?

I'd like to put a word in of praise for Ladbroke Computing. I sent letters to quite a few of your advertisers a while back. Ladbroke were the only ones to reply. The others are surely losing business.

Alan Rees, Sweden

A glossary, huh? Seems like a good idea to me, although I remain unconvinced of the validity of having a glossary every month - think of all that space which could be used to cram in even more features, reviews and so on. Perhaps we could print one bi- or even tri-monthly.

In the meantime, the best idea would be to cut along to your local computer store and buy a beginners' guide to the Amiga, which will almost certainly feature a glossary of terms.

Checking for hyphens? You're putting me on, right? Hyphens do not feature on the alpha part of the keyboard, and require a keypress in the upper, numeric part of the keyboard to produce them. How on earth could you inadvertently include them into your text?

The solution of course, is to globally search your documents for hyphens, after performing a spell-check. You will then be able to check each instance and correct those which don't require a hyphen.

As for us needing spell checkers, we use them, but the occasional bit of copy slips through the net - ho hum, no one's perfect.

The Hypercard review appeared in the July 1990 issue.

Ladbroke obviously take great care to respond positively to prospective customers, but you shouldn't be too hard on those who didn't bother.

Many computer suppliers are small operations run by one or two people who have their hands full meeting orders, let alone writing replies to what may, after all, simply be general enquiries which don't lead to sales.

I don't want to defend the suppliers too strongly, but I do think they receive bad press when they're genuinely trying to do a good job. Right. Advert over.

Polish problems

I have been a user of Commodore Amiga model 500 for one year. I live in Poland and I have got some problems with buying books and magazines associated with this computer.

The reason is simple, there are no magazines about the Amiga in Poland. I have bought three issues of *Amiga Computing* lately. They turned out to be very interesting. In my opinion it is the best magazine about the Amiga in the world.

I couldn't buy it regularly in my country and that's why I would like to ask you if there are some chances of subscribing and dispatch your magazine to Poland.

If it is possible, I would like to know how much it will cost. I can pay for this by bank transfer.

Please tell me the answer as quickly as possible because I would like to order your magazine for 1991.

Jaroslaw Rogajlo, Oswiecim, Poland.

Can't see why you couldn't subscribe, particularly as it's possible for you to pay by bank draft. I'll pass your letter on to our subscription department.

In the meantime, I've put a bundle of back copies in the post - enjoy them!

Music mania

I am 17 and currently doing a BTEC National at Huddersfield Tech. I have had my Amiga for over a year now and think I know it fairly well.

Recently I have developed an interest in Amiga music, so I sent off for a copy of GMC from the nice nice people at PDOM.

You can imagine my excitement when my December issue of *Amiga Computing* dropped through the letter box and I found that the disk included MED2.13.

I am very happy with it but I (finally getting to the point) want to create my own samples. Would it be possible to sample my own voice and if so would I need expensive and specialised equipment?

Sean Littlewood, Bradford, West Yorkshire.

So you want to hear what you sound like, Sean. You will need a sound sampler, software to run it and a microphone.

Sounds daunting doesn't it, but fear not for the complete kit is usually bundled together and may cost you as little as £30, although at the top end of the market you could pay well over £300.

Once sampled your wonderful copy of MED2.13 will allow you to handle digitised recordings, be it your voice or Cliff Richard's latest, with the consummate skill of a musical maestro.



PG tips?

Would certification be the way towards socially aware software? Stevie Kennedy takes a peek

In last month's *Amiga Computing* we raised the issue of sexism and violence in software. The article, Sexism or Salesmanship?, was an attempt to make people think more about the subject.

Your response has been encouraging, if not overwhelming.

We've had letters from those who agree and those who disagree with the view we put forward, but not as many as we'd like to have seen, so please keep putting pen to paper. Meanwhile, here is one of the best letters we've had on the subject.

Needs a certificate, guv...

I am writing in response to the interesting points that were raised in the Last Blit section of the February '91 issue, and agree with you that it is vital that the effect stereotyping is having on games software is thoroughly discussed.

Yours is the only magazine I have seen that has given significant light to these problems.

There seems to be a great deal of emphasis placed on the amount of violence in computer games and not enough on other problematic aspects, such as sexual stereotyping, which I consider is a bigger problem. There's no doubt that the computer market is male orientated, the tricky question is why?

Is it supply or demand which causes the problem? Demand is the side over which we have a measure of control, and magazines like your own, whose reviews can influence demand, have a responsibility to act.

If a piece of software is offensive, ratings should be reduced, thus decreasing demand. Manufacturers would then think twice about using a bikini or two to brighten up a game.

As far as legislation is concerned, I agree with Mr Kennedy's conviction that censorship would do little good, and might even make things worse.

If it is the younger game players who are the main concern in this debate, then more information should be available to parents concerning the nature of the software their children are buying. A coding system similar to that used in the film industry may be of use here.

Games like Rainbow Islands would receive a U rating, and games not so suitable for young children could get a PG, 14, 16, or even 18.

This would not solve the problems we're facing, but would bring some order from the chaos that might result if we simply sit back and do nothing.

Allan Turvey, Hackney Wick, London

I can't agree with the notion of rating games on their degree of social awareness. A product should only be scored on its success at accomplishing what it tries to do. Games set out to entertain, so we rate them on their entertainment value. That shouldn't, of course, stop us from pointing out their offensive or questionable aspects.

Your second suggestion is another matter. You might remember CRL's Jack the Ripper game a few years back. CRL took the responsible step of submitting it for classification and it was promptly given an 18 tag. Two of their previous games had been classified. Wolfman was made an 18 and Frankenstein a 15, but Ripper provoked a lot of controversy as it appeared around the hundredth anniversary of the Whitechapel killings.

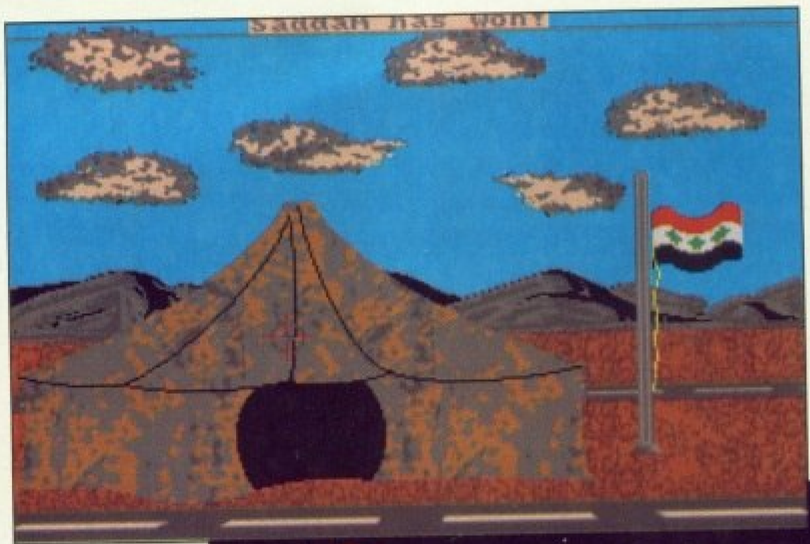
CRL's Clem Chambers told us that some major outlets wouldn't carry the game because of its certificate, but didn't seem worried about the possible effects of a general certification system. He pointed out that most games would be either U or PG-rated anyway, and that actual censorship in the form of a ban would be extremely rare.

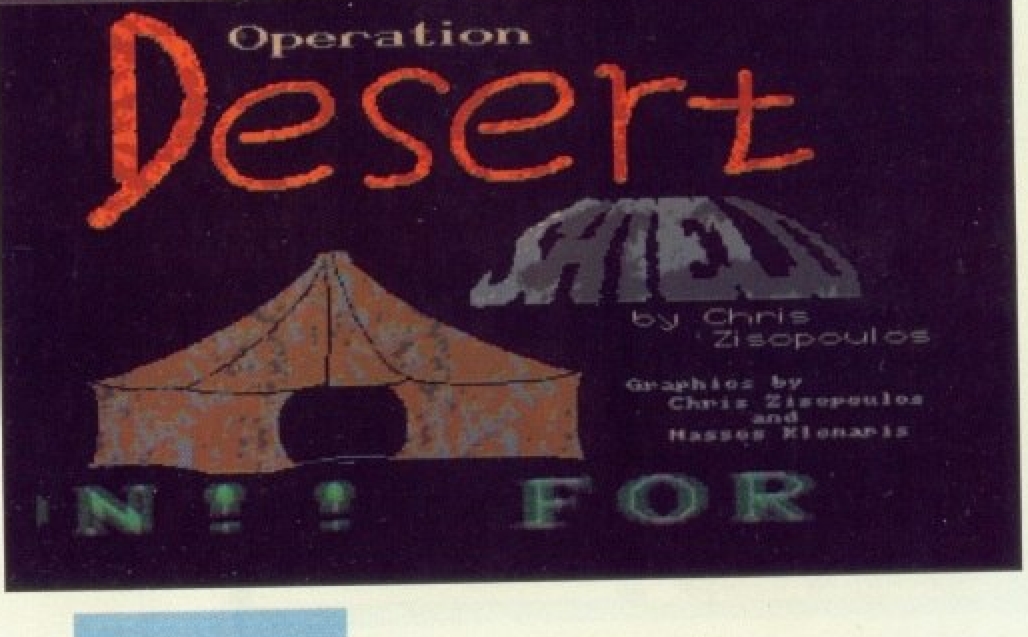
"Games companies know it would be very difficult to market something grossly offensive", he told us, *"because even if they wanted to do so, most normal channels of distribution would be closed to them"*. However, it's not just a matter of economics.

The vast majority of software houses exercise a degree of taste in choosing games to develop, which explains why we haven't seen any major releases based on the Falklands war.

We are also very unlikely to see a commercial product which exploits the present Gulf war. If such blatantly tasteless and offensive software existed, there might be a need for more certification, but that is thankfully not the case.

The problem of subtle stereotyping is a separate one, and beyond the reach of certification. In other words, we've still to find a solution to the problem of predictably macho-orientated software, so keep your letters coming in.





Operation Desert Shield was a disk submission whose tactless offensiveness took our breath away. It has been binned in disgust, but what if a commercial program on the same subject appears next year? Would we be right to censor it?

VIDEO FRAME GRABBER

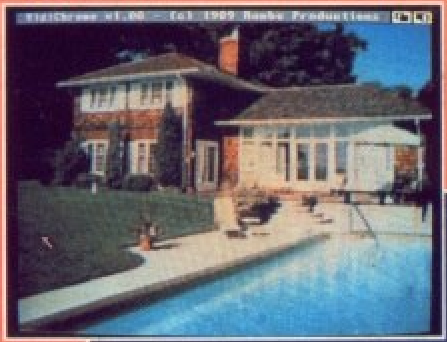


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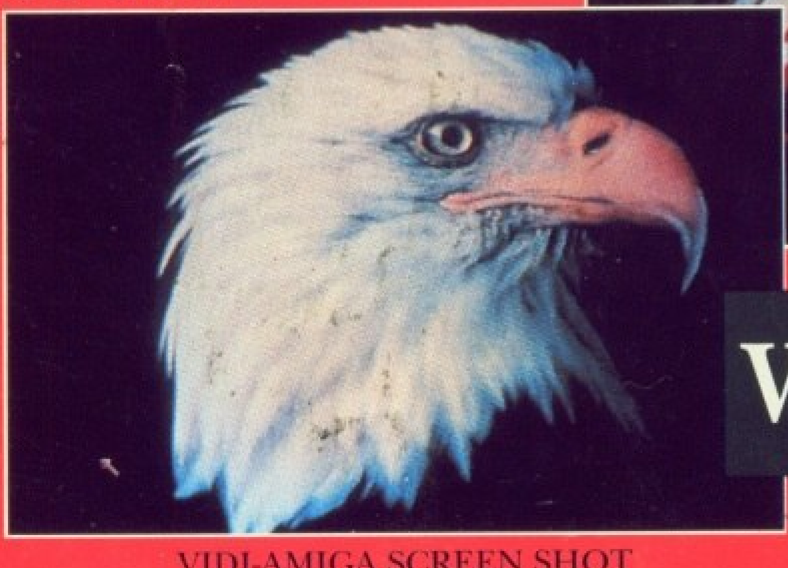
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